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PRINTED: 09-17-2012

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: LAST CHANCE

ALTERNATE NAMES:
PAT. CLAIMS MS 4291
UNPAT. CLAIMS MS 4383
UNPAT. CLAIMS MS 4466
UNPAT. CLAIMS MS 4467
J. REED DENISON
BLACK DIAMOND
DENISON MANGANESE
BAXTER DENISON
SHOUP MANGANESE
MCCLOSKEY GROUP
BOSLEY MINING CO.
SHAFER MANGANESE
LINESBA

COCONINO COUNTY MILS NUMBER: 251A

LOCATION: TOWNSHIP 14 N RANGE 10 E SECTION 30 QUARTER C
LATITUDE: N 34DEG 34MIN 15SEC LONGITUDE: W 111DEG 19MIN 52SEC
TOPO MAP NAME: LONG VALLEY - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

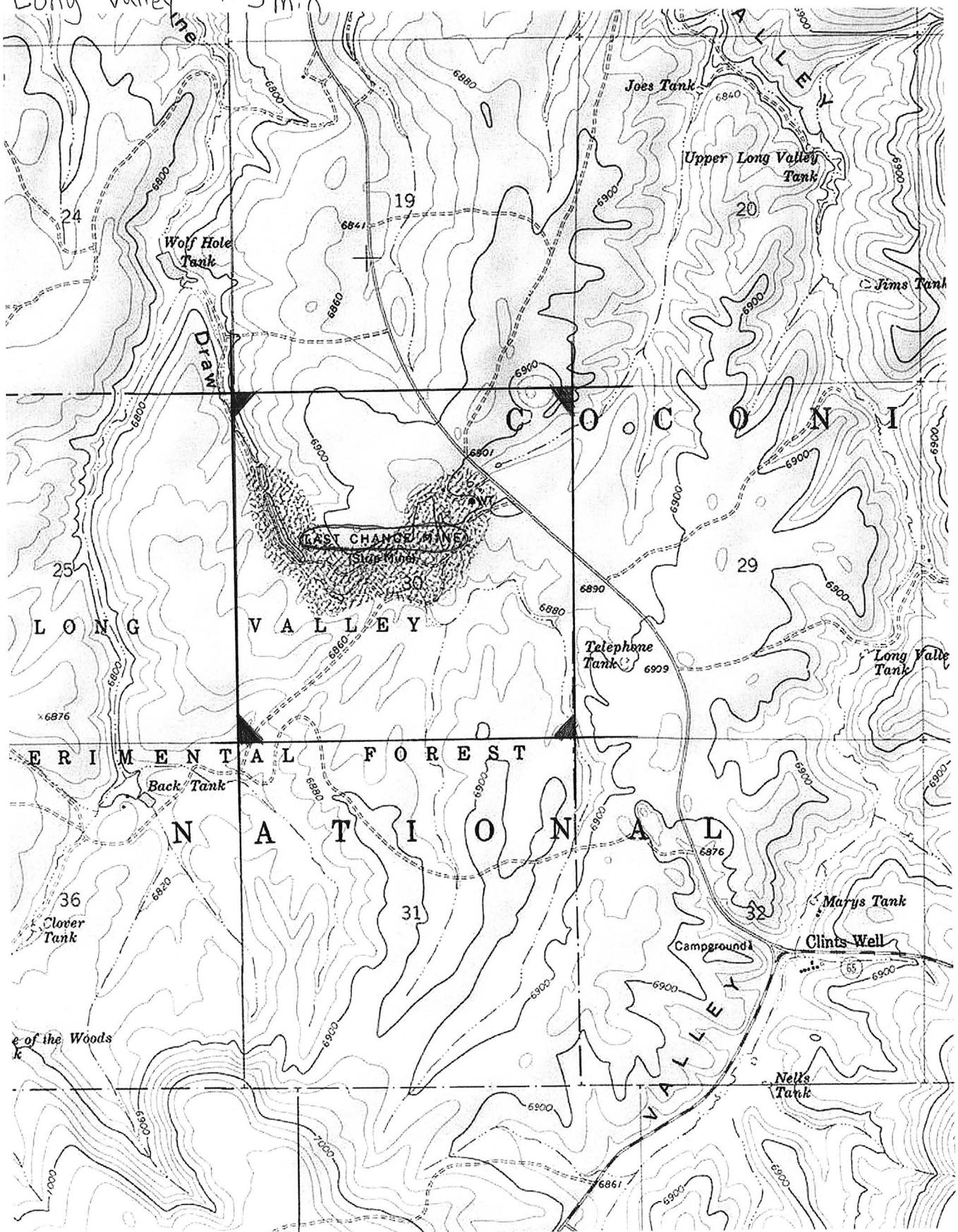
COMMODITY:
MANGANESE

BIBLIOGRAPHY:
BLM MINING DISTRCIT SHEETS 135, 144
ADMMR LAST CHANCE FILE
WILSON, E. & BUTLER, G., AZBM BULL. 127, P.56
RANSOME, F.L., & BURCHARD, E.F., USGS BULL. 710-D, P. 125-128
ADMMR SHAFER MANGANESE MINE FILE
ADMMR DMEA 2465
ADMMR "U" FILE
DORR II, J., AZBM BULL. 180, P. 216, 225
CLAIMS EXTEND INTO SEC. 24-T14N-R9E & SEC. 20 & 30 T14N-R10E
IC 7843 P. 9 (SHOUP MANGANESE)
FLAT MAPS (SHOUP MANGANESE)

IC 7843 p. 9

MAPS - Upstairs in the flat storage area - Fifth Drawer

Long Valley - 7.5 mi



N34 34' 15" W111 19' 52"

Last Chance

ArcGIS -

June 4, 1956
RICM;lp

LAST CHANCE MINENG CORPORATION (a subsidiary of Cavalier Coal Co)

W. D. Russ, Manager

Are operating the Schultz and Dennison manganese claims 1½ miles north of Long Valley State on the West side of the road. These are patented mining clains in Secs. 24 & 25 T. 14 N., R. 9 E., and Secs 19 and 30 T. 14 N., R. 10 E.

They are installing a 2,000 ton log roll concentrator which will handle 2,000 tons per day.

The manganese ore runs approximately 8%, wad type, in decomposed sandstone under a limestone capping.

Company hopes to have their open pit operation and concentrator in operation for production by the 1st of July, 1956 - they presently have 40 men working and planning a camp as well as their concentrator.

Arizona News 6-15-56

WN WORLD 8/1956

A-115-12 Pictures in Denson Mine Folder A·30·28 A·30·16 1953

A-115-11 1953

1956

A-115-13 ~~PICTURES IN DENSION MINE FOLDER~~

1956

A-115-14

Mrs. M. R. Linesba
Florence Jct — Po. 1026

✓ Chaeffer & Dennison —
Manganese in Long Valley
43 miles from Payson

Willard Flemming — County Atty —
at Flagstaff

Mining & shipping ore from
Long Valley Manganese Claim.
Also putting up bldgs.

They have returned Flemming
& Mrs. Linesba can get
no protection

Billy Graham at 1.30 P.M.

DEPARTMENT OF MINERAL RESOURCES

News items

Date 10/21/40

Mine LONG VALLEY MANGANESE

Location LONG VALLEY

Owner

Address

LEASE & OPTION TO

Operating Co. HUMPHREYS GOLD. CORP

Address 901 1ST NAT'L BANK BLDG

DENVER. COLO.

Pres. J. H. RATLIFF - ENG. IN CHARGE

Genl. Mgr. 619 S. GRANITE ST.

Mine Supt. PRESCOTT to NOV. 9

Mill Supt. THEN - WINSLOW.

Principal Metals 20 CLAIMS SHOWING

Men Employed MANGANESE IN BRECCIATED

Production Rate SHEAR ZONE IN LIME -

Mill, Type & Capacity 15 MEN - CORE DRILLING

& STRIPING TO DEVELOP ORE.

Power, Amt. & Type

Signed J.C.

(Over)

DENISON GROUP
J. REED DENISON
DENISON MANGANESE Co.
(LAST CHANCE)

COCONINO COUNTY
LONG VALLEY DIST.

SEE: "MANGANESE DEPOSITS OF WESTERN ARIZONA"
U.S.B.M. - I.C. 7843 (1958) p 9.
See: ABM Bull. 127, 56, 57, 58
See: USGS Bull. 710-D - P 125
See: ABM Bull. 180, p. 225

R. I. 4140 NOVEMBER 1947

UNITED STATES
DEPARTMENT OF THE INTERIOR
J. A. KRUG, SECRETARY

BUREAU OF MINES
JAMES BOYD, DIRECTOR

REPORT OF INVESTIGATIONS

CONCENTRATION OF OXIDE MANGANESE ORES FROM THE VICINITY OF LONG VALLEY, COCONINO COUNTY, ARIZ.

BY

C. H. SCHACK, H. G. POOLE, AND A. O. IPSEN

R.I. 4140,
November 1947.

REPORT OF INVESTIGATIONS

UNITED STATES DEPARTMENT OF THE INTERIOR - BUREAU OF MINES

CONCENTRATION OF OXIDE MANGANESE ORES FROM THE VICINITY OF LONG VALLEY, COCONINO COUNTY, ARIZ.[1]

By C. H. Schack[2], H. G. Poole[3], and A. O Ipsen[3]

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INTRODUCTION

In the course of the investigation of manganese-mineral occurrences in continental United States, the Bureau of Mines has collected several lots of ore from properties in the vicinity of Long Valley, Ariz. The ore occurs as

1/ The Bureau of Mines will welcome reprinting of this paper, provided the following footnote acknowledgment is made: "Reprinted from Bureau of Mines Report of Investigations 4140."

2/ Metallurgist in charge of ore-dressing work, Bureau of Mines, Salt Lake City Division, Metallurgical Branch, Salt Lake City, Utah.

3/ Formerly metallurgists, Bureau of Mines, Salt Lake City Division, Metallurgical Branch, Salt Lake City, Utah.

irregular and random pockets in a brecciated zone. As only high-grade portions of the deposits obtained by selective mining would be acceptable as commercial-grade manganese ores, an investigation was made to determine amenability of the ores to concentration by ore-dressing methods. Several types of ores, differing in grade and mineral associations, were studied.

Ores from the Valazza property are of special interest, owing to the successful application of silica flotation for their concentration. Ores from the Shroup and Conner-Hough properties are very similar but differ somewhat in their response to ore-dressing methods. In all instances, the manganese minerals are psilomelane and pyrolusite, with minor amounts of other manganese oxides. The country rock is a brecciated limestone; the diluent in the high-grade ore pockets is chiefly silica. The low-grade manganese ores are limestone replacements, and the chief gangue material, of course, is limestone.

Laboratory work on the ores from this district has been completed so far as present requirements are concerned. For purposes of brevity, many data of secondary importance have been omitted or condensed. Although all of the ores were beneficiated to a grade containing more than 48 percent manganese, greater recoveries were obtained by the production of lower-grade concentrates. The liberation and removal of quartz, which was sometimes finely intergrown with the manganese oxides, were major problems. One of the ores was beneficiated sufficiently by a simple washing and desliming operation to meet 48-percent manganese specifications when sintered, whereas other ores needed relatively fine grinding to meet minimum specifications. In most of the treatment procedures, sintering or nodulizing of the concentrates was necessary to meet the final chemical and physical marketing specifications.

This paper was written to present the general possibilities of ore-dressing in beneficiating the ores from this district, both from the individual operator's point of view and for the district as a whole. The data included herein have been taken from the results of four investigations.

ACKNOWLEDGMENTS

The authors wish to acknowledge the assistance of R. S. Dean, former Assistant Director of the Bureau of Mines, under whose supervision the manganese program was initiated in 1940, and the valuable suggestions made to them by S. R. Zimmerley, now chief, Salt Lake City Division, Metallurgical Branch. Microscopic work on the ores and many ore-dressing products was done by L. G. Evans and the late R. E. Head. Our appreciation also is extended to H. E. Peterson, chief chemist, and members of the analytical staff for the many analyses made of the ores and ore-dressing products. For information obtained on the deposits and for various ore samples received, acknowledgment is made to H. B. Ewoldt, mining engineer of the Mining Branch.

MANGANESE MARKETING SPECIFICATIONS

At the beginning of the investigation of manganese ore beneficiation in December 1940, the only product marketable to Metals Reserve Company was ferrograde manganese, grade B, the requirements for which follow: Mn, min., 48

percent; Fe max., 7 percent; SiO_2, max., 10 percent; P, max., 0.18 percent; Al_2O_3, max., 6 percent; Zn, max., 1 percent.

Later the specifications were modified gradually. As of May 15, 1943, manganese products were acceptable if they contained over 35 percent manganese and less than 3 percent zinc and 1 percent phosphorus. Prices were based upon material containing 48 percent manganese, 6.0 percent iron, and 11 percent silica plus alumina. Premiums were paid for manganese content in excess of 48 percent and iron content below 6 percent, penalties being imposed upon products containing less than 48 percent manganese or more than 6 percent iron or more than 11 percent silica plus alumina. The specifications for commercial manganese further required that the maximum particle size be 12 inches and that 75 percent of the product be coarser than 20-mesh. Therefore, fine material, such as table and flotation concentrates, had to be nodulized or sintered. In addition carbonate manganese ores were not acceptable unless calcined.

After the close of World War II the Metals Reserve Company ceased to purchase of manganese ores and concentrates. Therefore, the specifications given here, although correct at the time of the laboratory investigations, are no longer in effect.

NATURE OF ORES

Physical

Six lots of ore from the Long Valley district were received as representative of exposed ore in the area. Three of these are from the Valazza property, two of them from the Shroup property, and one from the Conner-Hough property. A small lot of Valazza ore had previously been sent in by the owners, and a preliminary ore-dressing investigation had been made. Of the Valazza ores, two were siliceous ores of high and intermediate manganese grades. The third was calcareous and low in manganese content. The high-grade manganese Shroup ore was siliceous, whereas the low-grade manganese sample was calcareous. The Conner-Hough lot was high-grade manganese with a siliceous gangue.

The manganese-silica association in both high- and low-grade ores varies from simple to complex. The ores are notably porous and spongy with inclusions of claylike material and ocherous iron. The manganese mineral is relatively hard, despite its spongy appearance, and fine grinding did not produce excessive fines.

As several types of ore were received from the deposits in the district, ore-dressing work was carried out so that the results presented beneficiation data for each ore sample as a separate problem. Therefore, the report on the experimental work has been divided into the following sections:

1. Valazza high-grade oxide manganese ore.

2. Valazza intermediate-grade oxide manganese ore.

3. Valazza low-grade oxide manganese ore.

4. Conner-Hough high-grade oxide manganese ore.

5. Shroup high-grade oxide manganese ore.

6. Shroup low-grade oxide manganese ore.

Chemical

The chemical analyses for each of the lots of ore used in the ore-dressing experiments are given in table 1.

TABLE 1. - Chemical analyses, percent

Property	Mn	Insol.	SiO_2	CaO	Fe	Al_2O_3	MgO	P	Zn	Ba	Ag
Valazza.....	36.9	20.5	17.8	2.8	0.6	3.7	0.03	0.076	Tr.	2.24	Tr.
Do.	29.2	33.6	29.6	2.0	1.1	5.2	.10	.097	Tr.	1.88	Tr.
Do.	8.4	19.6	17.1	33.2	.6	2.5	.28	.057	Tr.	.05	Tr.
Conner-Hough.....	40.4	11.4	8.7	.6	4.4	4.5	.14	.104	0.15	2.35	-
Shroup.....	43.3	14.0	12.1	.3	1.2	3.4	-	.082	-	2.35	-
Do.	5.5	26.9	23.9	32.8	.6	2.0	.28	.060	-	-	-

METHODS OF CONCENTRATION

Valazza High-grade Oxide Ore

This lot represents the best grade of ore obtainable by selective mining of the high-grade pockets of Valazza manganese oxides. The major diluent is silica, and satisfactory liberation can be obtained in the 65- to 150-mesh sizes. Without treatment, the ore could be marketed as a low-grade plus 35-percent manganese product. However, removal of small amounts of silica would raise the grade sufficiently to meet specifications for 48-percent manganese after sintering. Several ore-dressing experiments were made to determine the most successful treatment procedure, but the following tests were the most favorable.

Flotation of Silica

A sample of ore was crushed to minus 10-mesh, and the crusher slimes were removed by decantation. The minus 10-mesh sands were ground wet to minus 150-mesh and deslimed. The minus 150-mesh sands were then pulped in Salt Lake City tap water to about 30 percent solids in a mechanically agitated flotation cell. The silica was stage-floated in a series of rougher concentrates with cationic reagent Emulsol No. 487 E. P. hydrochloride as collector and frother. The rougher silica concentrates were combined and cleaned. The manganese rougher product, the manganese cleaner product, and the mill and crusher slimes were combined as a manganese concentrate and sintered to meet basic 48-percent manganese specifications with a slight penalty for silica plus alumina. Metallurgical data are given in table 2.

TABLE 2. - Flotation of silica from Valazza high-grade ore
Metallurgical Data

Product	Weight, percent	Assay, percent		Distribution, percent	
		Mn	SiO_2	Mn	SiO_2
Silica rougher tailing (Mn concentrate).....	43.0	44.8	5.0	50.6	13.7
Silica cleaner tailing (Mn middlings).....	21.3	39.4	11.3	22.0	15.0
Mill and crusher slime.....	19.9	37.6	13.5	19.6	16.9
Cleaner silica concentrate.....	15.8	18.8	55.2	7.8	54.4
Calculated head.....	100.0	38.1	16.0	100.0	100.0
Combined concentrate, middling and slime (to sinter).....	84.2	41.7	8.6	92.2	45.6

Consumption of reagents

Circuit	Emulsol E P 487, pound per ton of ore
Rougher.....	0.52
Cleaner.....	.26
Total.....	.78

Results of sintering

	Assay, percent								
	Mn	Fe	SiO_2	P	Al_2O_3	Zn	Ba	CaO	$SiO_2+Al_2O_3$
Sinter.....	48.5	1.3	10.0	0.090	3.9	0.20	3.77	3.1	13.9
	Min.	Max.		Max.		Max.			Max.
MRC base-price marketing specifications....	48.0	6.0		1.0		3.0			11.0

The results in table 2 show a recovery of 92.2 percent of the manganese in the ore as products that, when combined and sintered, met basic chemical specifications for 48-percent manganese ore with only a small penalty for silica plus alumina. The silica concentrate represented 54.4 percent of the silica in the ore and contained only 7.8 percent of the total manganese. No attempt was made to reduce the manganese content of the silica concentrate by grinding and re-treatment.

Gravity Concentration and Manganese Flotation

A large sample of ore was crushed dry to minus 6-mesh, and the plus 14-mesh fraction was jigged to produce a finished concentrate and a middling. The jig middling was combined with the original minus 14-mesh material, stage-ground to minus 48-mesh, and the sands sized for tabling. The table made a finished concentrate at all sizes, but the coarse tailings were ground to minus 150-mesh, at which size the final table tailing was made. The minus 150-mesh table sand tailing was pulped to about 30 percent solids in a mechanically agitated laboratory flotation cell, and the pH was adjusted to 6.0 to 6.2 by addition of sulfuric acid in preparation for manganese flotation. Salt Lake City tap water was used throughout the test. A manganese

rougher concentrate was taken from the cell in stages, using an emulsion of 5 parts of oleic acid to 1 part of Emulsol X-1 as collector and frother. The manganese rougher concentrates were repulped in a flotation cell and refloated to obtain two cleaner manganese concentrates. During the cleaning operation, additional small amounts of the oleic acid emulsion were added in stages. The over-all metallurgical results are tabulated in table 3, with the consumption of flotation reagents and the analysis of product made by sintering the combined crusher slime, mill slime, and gravity concentrates.

TABLE 3. - Gravity and tailing flotation on Valazza high-grade ore

Metallurgical data

Product	Weight, percent	Assay, percent		Distribution, percent
		Mn	SiO_2	Mn
Minus 6- plus 14-mesh jig concentrate	31.3	45.0	9.4	35.7
Sand table concentrates	40.0	47.0	5.5	47.7
Crusher and mill slimes	10.3	34.6	15.2	9.0
Cleaner flotation concentrate No. 1	7.7	22.0	16.8	4.3
Cleaner flotation concentrate No. 2	1.7	24.3	44.6	1.1
Rougher and cleaner flotation tailing	9.0	9.6	74.7	2.2
Calculated heads	100.0	39.4	15.5	100.0
Combined gravity and slimes	81.6	44.6	8.2	92.4
Combined gravity concentrates, flotation concentrates, and slime	91.0	42.4	9.6	97.8

Consumption of reagents

Circuit	Reagents, pound per ton of ore	
	Oleic acid	Emulsol X-1
Rougher	0.6	0.12
Cleaners	.2	.04
Total	.8	.16

Results of sintering

	Assay, percent								
	Mn	SiO_2	Fe	P	Al_2O_3	Zn	CaO	Ba	$SiO_2+Al_2O_3$
Assay, sinter	49.6	10.3	1.0	0.064	3.0	Tr.	2.30	3.60	13.3
	Min.		Max.	Max.		Max.			Max.
MRC base-price marketing specifications	48.0		6.0	1.0		3.0			11.0

The results in table 3 show that 92.4 percent of the total manganese was recovered at plus 48-percent manganese grade by gravity concentration and sintering. The recovery was increased to 97.8 percent by manganese flotation of the table tailings, with only a slight drop in over-all grade.

Results by gravity concentration were roughly comparable with results by silica flotation, except that the gravity concentrates were higher-grade.

Valazza Intermediate-Grade Oxide Ore

Preliminary test data on the intermediate-grade ore from the Valazza property showed that the principal ore-dressing problem was liberation and rejection of silica. Both silica and manganese flotation failed to make high recoveries of concentrates at 48-percent manganese grade. Gravity concentration proved the most successful method of recovering a high-grade concentrate which, when sintered, would assay plus 48 percent manganese.

Table Concentration

A sample of the intermediate-grade ore was crushed to minus 10-mesh deslimed. The minus 10-mesh sands were ground in stages to minus 48-mesh and deslimed. Sized fractions of the minus 48-mesh sands were tabled separately to produce concentrates, but the middling and tailings were all ground to minus 150-mesh before a finished tailing was discarded. Table 4 shows the distribution of manganese and assays of the various products made by this method, and the analyses of the sintered products.

TABLE 4. - Table concentration of Valazza intermediate-grade ore
Metallurgical Data

Product	Weight, percent	Assay, percent		Distribution, percent
		Mn	SiO_2	Mn
Minus 48- plus 65-mesh concentrate	6.1	43.8	11.6	8.5
Minus 65- plus 150-mesh concentrate	6.5	45.0	8.6	9.3
Minus 150-mesh concentrate	36.5	45.5	6.5	52.5
Grind slime	14.3	30.1	31.3	13.6
Crusher slime	10.0	24.4	17.5	7.7
Minus 150-mesh middling	8.6	14.2	58.0	3.9
Minus 150-mesh tailing	18.0	8.0	69.6	4.5
Calculated heads	100.0	31.6	27.4	100.0
Combined concentrates (to sinter 1)	49.1	45.2	7.2	70.3
Combined concentrates and slimes (to sinter 2)	73.4	39.4	13.4	91.6
Combined concentrates, slimes and middlings (to sinter 3)	82.0	36.8	18.1	95.5

Results of sintering

	Assay, percent								
	Mn	SiO_2	Fe	P	Al_2O_3	Zn	CaO	Ba	$SiO_2+Al_2O_3$
Sinter 1	51.0	7.0	1.4	0.090	1.9	Tr.	1.8	-	8.9
Sinter 2	44.4	13.8	2.0	.123	4.1	Tr.	2.9	-	17.9
Sinter 3	41.1	19.3	1.8	.125	3.9	Tr.	3.1	-	23.2
	Min.		Max.	Max.		Max.			Max.
MRC base-price marketing specifications	48.0		6.0	1.0		3.0			11.0

The results in table 4 show a recovery of 70.3 percent of the manganese in a product that, when sintered, exceeded base-price marketing specifications. Increased recoveries could be obtained in products assaying below 48 percent manganese when sintered. In fact, 95.5 percent of the manganese was recovered in a product that, when sintered, assayed plus 40 percent manganese.

Other tests (not given in detail) on this ore include jigging, combined jigging and tabling, and silica flotation. Plus 48-percent manganese was obtained by each of these methods, but recovery was not as good as that obtained by tabling alone. Combined jigging and tabling resulted in recovery of 88.4 percent of the manganese in a product that, when sintered, assayed 43.3 percent manganese and 16.7 percent silica. The manganese:iron ratios for all these products exceed 20 to 1.

Valazza Low-grade Oxide Ore

Preliminary data for the Valazza low-grade ore show the necessity for rejecting large amounts of silica and calcite to beneficiate this manganese ore to commercial grade. No harmful concentration of phosphorus was noted during the test work, so that it need not be considered as a further problem. Chemical analysis of the ore shows that silica flotation would not solve the problem, as complete removal of this component would not greatly improve the grade. Flotation of calcite left large amounts of silica in the ore and presented a difficult problem of cleaning to keep manganese out of the calcite concentrate. The following gravity-concentration method gave the best results.

Jig and Table Concentration

A large sample of ore was crushed dry to minus 6-mesh and wet-screened into several plus 14-mesh fractions. The coarse fractions of ore were jigged separately to make concentrates and low-grade tailings for discard. The plus 14-mesh concentrates were combined with the minus 14-mesh original ore, and the whole was ground to minus 100-mesh in the laboratory batch ball mill. After desliming, the minus 100-mesh material was tabled to give a finished table concentrate and a middling. The table middling was reground to minus 200-mesh, deslimed, and retabled to give an additional concentrate and a final table tailing. Data are summarized in table 5.

TABLE 5. - Jig and table concentration, Valazza low-grade ore
Metallurgical data

Product	Weight, percent	Assay, percent			Distribution, percent
		Mn	SiO_2	CaO	Mn
Combined table concentrates (to sinter)	10.0	40.0	5.2	5.5	49.7
Crusher and mill slime	24.3	7.6	14.6	32.6	22.9
Table tailing	43.0	4.2	20.9	36.5	22.4
Minus 6- plus 14-mesh jig tailings	22.7	1.8	18.7	41.3	5.0
Calculated head	100.0	8.1	16.3	33.5	100.0

Results of sintering

	Assay, percent								
	Mn	Fe	SiO_2	P	Al_2O_3	Zn	Ba	CaO	$SiO_2+Al_2O_3$
Sinter.....	48.4 Min.	1.9 Max.	5.5	0.078 Max.	3.5	- Max.	2.95	7.3	9.0 Max.
MRC base-price marketing specifications....	48.0	6.0		1.0		3.0			11.0

The results in table 5 show that, by jigging and tabling, a recovery of 49.7 percent of the manganese in the ore was obtained as a product that, when sintered, exceeded base-price marketing specifications. Although jigging raised the grade to tabling only 1.8 percent, it was advantageous in that over one-fourth of the lime and silica was discarded in a coarse product representing 22.7 percent of the total weight and containing only 5 percent of the manganese.

Conner-Hough High-Grade Oxide Ore

The preliminary experimental work on the manganese oxide ore from the Conner-Hough property showed that the ore is sufficiently high-grade to be marketable without treatment or, if sintered, would assay 47.3 percent manganese. As very little beneficiation was required, only sizing tests were made, wherein the slime and fine-sand fractions were low-grade and could be discarded.

Distribution of Manganese in Sized Fractions

Sizing analyses were made on portions of the ore crushed to minus 1-inch and crushed to minus 10-mesh. The metallurgical data are given in tables 6 and 7.

TABLE 6. - Distribution of manganese in sized fractions of minus 1-inch ore
Metallurgical data

Product	Weight, percent	Assay, percent		Distribution, percent
		Mn	SiO_2	Mn
Minus 1-inch plus 10-mesh.....	64.0	44.9	3.2	74.1
Minus 10- plus 48-mesh.....	15.4	42.9	3.6	16.8
Minus 48- plus 100-mesh.....	5.2	29.4	18.4	3.9
Minus 100- plus 200-mesh.....	5.5	16.5	43.2	2.3
Minus 200-mesh sand.....	5.8	15.7	40.0	2.3
Slime.....	4.1	5.8	38.0	0.6
Calculated heads.....	100.0	38.8	9.8	100.0
Combined plus 48-mesh.....	79.4	44.4	3.3	90.9
Combined plus 200-mesh (to sinter).....	90.1	41.8	6.6	97.1

TABLE 7. - Distribution of manganese in sized fractions of minus 10-mesh ore
Metallurgical data

Product	Weight, percent	Assay, percent		Distribution, percent
		Mn	SiO_2	Mn
Minus 10- plus 14-mesh.....	34.3	47.2	2.6	41.3
Minus 14- plus 28-mesh.....	19.8	46.0	2.6	23.2
Minus 28- plus 48-mesh.....	12.4	43.5	3.4	13.8
Minus 48- plus 100-mesh.....	9.3	36.9	9.2	8.7
Minus 100- plus 200-mesh.....	7.9	26.6	28.4	5.4
Minus 200-mesh sand.....	9.8	23.0	29.2	5.8
Slime.....	6.5	10.9	32.2	1.8
Calculated heads.....	100.0	39.2	9.9	100.0
Combined sand (to sinter).....	93.5	41.2	8.3	98.2

The data in table 6 show that approximately 90 percent of the manganese in the sample can be recovered as a product plus 48-mesh in size and assaying plus 44 percent manganese. This product would meet physical specifications without nodulizing. The tables also indicate that by discarding minus 200-mesh sand and slime from the coarse feed or slime from the crushed ore, more than 97 percent of the manganese can be retained in a product that, when sintered, will assay plus 48 percent manganese.

Shroup High-Grade Oxide Manganese Ore

This ore sample represents the highest grade of ore available by selective mining of the high-grade pockets on the Shroup property and more than meets the minimum 35-percent requirements for marketable manganese ore. The original ore, after sintering, would assay plus 48 percent manganese and be marketable under base-price specifications. However, a number of ore-dressing tests were made on the ore to determine if the siliceous gangue content of the ore could be rejected.

Jig and Table Concentration

A large portion of the ore was crushed in stages to minus 6-mesh, deslimed, and sized. The plus 14-mesh fractions were jigged to give a concentrate and a middling. The jig middling and the original minus 14-mesh material were ground to minus 48-mesh, deslimed, and sized. The sand fractions were tabled to give a concentrate and a tailing. However, all the plus 150-mesh products other than concentrates were reground, so that the final tailing was all minus 150-mesh. The complete results of gravity concentration and sintering of the concentrates are given in table 8.

TABLE 8. - Gravity concentration of Shroup high-grade oxide ore

Metallurgical data

Product	Weight, percent	Assay, percent		Distribution, percent
		Mn	SiO_2	Mn
Combined jig concentrate.....	58.9	47.4	7.0	63.4
Combined table concentrate.....	21.1	48.0	5.2	23.0
Minus 150-mesh table middling No. 1.....	9.6	34.7	25.1	7.6
Crusher slime.....	2.0	34.2	13.8	1.6
Grinding slime.....	4.8	31.1	24.1	3.4
Minus 150-mesh table middling No. 2.....	2.0	17.3	54.2	0.8
Minus 150-mesh table tailing...	1.6	6.4	73.8	0.2
Calculated heads.....	100.0	44.0	11.3	100.0
Combined concentrates, middling No. 1, and slime (to sinter).	96.4	45.2	9.4	99.0

Results of sintering

	Assay, percent								
	Mn	Fe	SiO_2	P	Al_2O_3	Zn	Ba	CaO	$SiO_2+Al_2O_3$
Sinter.....	50.5	1.5	10.4	0.085	3.4	Tr.	3.42	0.8	13.8
	Min.	Max.		Max.		Max.			Max.
Base-price marketing specifications.....	48.0	6.0		1.0		3.0			11.0

The results of the gravity concentration of Shroup high-grade ore given in table 8 show that 99 percent of the manganese was recovered as a product that, when sintered, met the base-prise specifications for 48-percent manganese ore with a small silica-plus-alumina penalty. However, the final tailing was only 3.6 percent of the weight of the original ore, and 20 percent of the ore was ground to minus 150-mesh to liberate this siliceous fraction. By jigging alone, 63.4 percent of the manganese can be recovered in a marketable 47.4 percent manganese product, which would not require sintering to meet physical specifications. Flotation of both silica and manganese gave nearly as high recoveries of 48-percent manganese as did the gravity methods, but it was necessary to grind the ore to minus 150-mesh before the flotation treatment was employed.

Shroup Low-Grade Oxide Ore

The Shroup low-grade required liberation and rejection of large amounts of silica and lime. Gravity concentration gave better results than flotation, as silica and lime could be rejected together and at coarser sizes. The size at which liberation was obtained depended on the grade of product required. Thus, for 40-percent and 44-percent manganese products, jigging and tabling gave the best results. However, the following all-tabling method gave the best recovery of a 48-percent manganese sinter.

Table Concentration

A portion of the ore was crushed in stages to minus 10-mesh and deslimed. The minus 10-mesh sands were ground in stages in a laboratory ball mill to minus 48-mesh and screen-sized for table concentration. Table concentrates were made from the minus 48- plus 200-mesh fractions, but all the coarse middlings and tailings were reground to minus 200-mesh before the final tailings were discarded. The recovery obtained in the combined table concentrates and the analysis of final manganese sinter are given in table 9.

TABLE 9. - Table concentration of Shroup low-grade oxide ore

Metallurgical data

Product	Weight, percent	Assay, percent		Distribution, percent
		Mn	SiO_2	Mn
Combined table concentrate (to sinter)	6.5	41.4	8.2	48.9
Minus 200-mesh table middling	2.8	9.0	17.2	4.6
Minus 200-mesh table tailing	57.8	1.7	28.2	17.8
Crusher slime	8.5	5.8	15.6	9.0
Grinding slime	24.4	4.4	18.1	19.7
Calculated heads	100.0	5.5	23.1	100.0

Results of sintering

	Assay, percent								
	Mn	Fe	SiO_2	P	Al_2O_3	Zn	Ba	CaO	$SiO_2+Al_2O_3$
Sinter	48.0	2.8	7.4	0.087	3.7	Tr.	3.3	4.7	11.1
	Min.	Max.		Max.		Max.			Max.
MRC base-price manganese specifications	48.0	6.0		1.0		3.0			11.0

Table 8 shows that 48.9 percent of the manganese in the Shroup low-grade ore was recovered as a product that, when sintered, assayed 48.0 percent manganese, 2.8 percent iron, and otherwise conformed to base-price specifications. By jigging and tabling, no 48-percent manganese product was made, but 59.6 and 63.7 percent of the manganese was recovered at 44-percent manganese and 40-percent manganese grades, respectively. An appreciable portion of the silica is intimately associated with the manganese oxides; and although low-grade concentrates can be made at coarse sizes, high-grade products and clean tailings can only be made at minus 100-mesh and minus 200-mesh sizes.

SUMMARY AND CONCLUSIONS

Valazza Oxide Ores

1. The Valazza high-grade ore (36.9 percent manganese) was found to be readily amenable to beneficiation by both gravity-concentration and silica-flotation methods; 96.7 percent of the manganese was recovered as a product that, when sintered, met base-price marketing specifications.

2. The Valazza intermediate-grade ore (29.2 percent manganese) was concentrated by tabling to produce high-grade manganese; 70.3 percent of the manganese was recovered as a product which, when sintered, assayed 51 percent manganese.

3. The Valazza low-grade ore (8.4 percent manganese) was amenable to beneficiation by jigging and tabling, and 49.7 percent of the manganese was recovered as a product that, when sintered, met base-price specifications.

Conner-Hough High-Grade Oxide Ore

1. Washing and sizing of the high-grade Conner-Hough ore (40.4 percent manganese) with the rejection of the fine sands and slimes yielded a product that assayed 48-percent Mn when sintered and contained 97 to 98 percent of the manganese in the ore.

Shroup Oxide Ores

1. The Shroup high-grade ore (43.3 percent manganese) met base-price marketing specifications for plus 48-percent manganese ore after sintering. A small amount of siliceous gangue can be rejected by employing fine grinding and gravity concentration methods.

2. The Shroup low-grade ore was concentrated to plus 48 percent manganese by tabling, and 48.9 percent of the manganese was recovered in a product that, when sintered, met base-price specifications.

3. Some of the silica is very intimately associated with manganese oxides in ores from this property, and much better recoveries (59 and 64 percent) were made as 44-percent manganese- and 40-percent manganese-grade products.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine J. Reed Denison (Baxter-Denison)

Date December 2, 1958

District Long Valley, Coconino Co.

Engineer Travis P. Lane

Subject: Status

The following brief comments were made to the writer by Mr. Alvis S. Denison at the time of a visit to his mine and mill operating near Heber.

Property: The property comprises 9 patented claims. It is located in Long Valley some 50 miles south from Winslow.

Owner: The claims (manganese) were formerly owned by Alvis S. Denison's brother, J. Reed Denison, deceased, and are now owned by the Baxter-Denison estate.

The Last Chance Mining Co. operated the property for a time under lease and option agreement from J. R. Denison. A large sum of money was spent in development and in the construction of a mill. Some small lots of crude sorted ore were shipped and, following construction of the mill, eleven carlots of concentrate. The mill operation was short-lived, however, and the property was then leased to others. The lessees quit and the property reverted to the owners. It is presently idle.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine

District

Date September 12, 1957

Engineer Lewis A. Smith

Subject: SUPPLEMENTARY DATA

LAST CHANCE (Dennison Ppty) MANGANESE
Long Valley Region (Manganese)

Area of deposits is about 1½ miles square in Long Valley, 1½ miles from Clints Well.

The Permian Kiabab limestone is the floor which in places is covered by irregular remnants of Tertiary lavas. In places the Kaibab limestone is rather dolomitic, but cherty and sandy phases are also common. In the Long Valley area it is about 250' thick. In the deep canyons, Coconino sandstone is found. This formation overlies the Permian Supai red beds, a formation which, here, is more than 1000 feet thick. These strata dip gently northwestward, but have been locally faulted or folded. A general northeast-southwest trending breccia zone is disclosed by underground workings.

THE McCLOSKEY GROUP includes five unpatented claims and covers most of the surface showings of manganese ore. They lie in Iron Canyon, about 60 miles from Winslow. Early shipments by McCloskey averaged about 47% (during 1927-1929). The last shipments ran 46% Mn, 36% Fe, 2.37 alumina, 0.66% P_2O_5, 8.70% silica and 3.47% water. (1929) See Ariz. B.M. Bul. #127 p 56

The mine was developed by a group of cuts, shallow tunnels and shafts.

Manganese occurs in decomposed limestone and sandstone associated with breccias of these formations. The ore is mostly in nodules or masses composed mainly of psilomelane, which is in columnar rods, one to five inches in length, and in concentric crusts. Below, the manganese lies on rock bedding planes and is here associated with iron oxide, the manganese lining the iron-oxide in stringers or crusts. This ore commonly replaces sandstone. Numerous small quartz grains are intermixed with the psilomelane and pyrolusite.

The breccia is composed of fragments of sandstone and chert cemented by manganese and iron-oxides. The breccia zone trends N30°E for 1½ miles of length.

Two theories of deposition:
(1) That the manganese deposits have been formed by leaching of disseminated specks in the eroded overlying formations (residual).
(2) Hydrothermal.
The field evidence apparently favors the residual theory.

Reference: Jones, E.L., Jr., and Ransome, F.L., "Deposits of Manganese ore in Arizona", U.S.Geol.Survey Bull 710-D, pp 127-128 (1920).
Wilson, Eldred, and Butler, G.M.,: "Manganese deposits of Arizona", Univ. of Arizona, Bull. 127, Feb. 15, 1930.

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES

INFORMATION FROM MINE CARDS IN MUSEUM

ARIZONA

Coconino ~~Yavapai~~ Co.

Long Valley Dist.

Shoup Claims

MM-K107 Manganese

#251 A

13-AKA'n

Shoup Manganese property (file)

Last Chance (file)

December 2, 1958

MEMO

SHOUP MANGANESE PROPERTY

Notes from comments made by Alvis Denison on October 31, 1958.

The L.E. Shoup (of Prescott) group of 10 unpatented manganese claims adjoin the J. Reed Denison group of patented claims in the Long Valley district. The property is located approximately 50 miles south of Winslow on the Winslow-Pine Road in the Long Valley Mining District of Coconino Co. The Shoup claims were leased, along with the Reed Denison claims, to the Last Chance Mining Co. at the time the company was active in the region several years ago.

T. P. LANE

M-1

6.6

MINERAL SPECIMEN FOR DEPARTMENT OF LIBRARY AND ARCHIVES K-107

(Do not write in this space)

Ore _____

Cabinet _____

No. _____

(Wrap each specimen separately, or place it in a substantial bag, by itself, with a number attached, identical with the number on this card.)

Specimen No. 20, collected by Carl G. Barth, Jr. Field Engineer

Name of ore Manganese

Minerals contained _____

Gangue _____

Depth at which taken Surface

Approximate mineral content (in terms of average per ton) _____

Name of mine or claim _____

Group Shoup Claims

District Long Valley

Location (distance and direction by highway from what town _____

Owner of property L.E.Shoup and Assoc.

Prescott, Arizona

Operator _____

Mine active or inactive Prospect

If inactive, when operated _____

Specimen presented by L.E.Shoup

Date March 25, 1940

Notes (Any general information regarding the history of the property.)

A Prospect.

If more space is desired for notes, use other side.

This speiman is now in the ADMR Museum - see K Number 5-6-7 8.0 x 7.0 x 5.0 cm

McCLOSKEY GROUP

See Dennison Manganese (file)

See U.S.B.M. - I.C. 7843 (1958) p 9.

DEPARTMENT OF MINERAL RESOURCES

STATE OF ARIZONA

FIELD ENGINEERS REPORT

Mine

Date September 12, 1957

District

Engineer Lewis A. Smith

Subject: SUPPLEMENTARY DATA

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Wilson, Eldred, and Butler, G.M.,: "Manganese deposits of Arizona", Univ. of Arizona, Bull. 127, Feb. 15, 1930.

UNITED STATES
DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE
DISTRICT LAND OFFICE
Phoenix, Arizona,
October 16, 1946.

Mr. J. E. Busch,
Department of Mineral Resources,
Phoenix, Arizona.

Dear Mr. Busch:

We are in receipt of your Memorandum of Ocgober 16,1946.

It appears from the records of this office that the SW¼, Sec. 3, T. 21 N., R. 2 E., was at one time patented to the Santa Fe Pacific Railroad Co., under its grant, but that the said SW¼, Sec. 3, was subsequently reconveyed to the United States, and other land was taken in lieu thereof. The SW¼, Sec. 3, said township therefore appears to be U. S. public land, but included in the National Forest Reserve.

The mineral entry you have in mind of Mr. Dennison, appears to be Mineral Entry 082157, filed Nov. 20, 1945, by J. Reed Denison, Mineral Survey 4291, for nine lode claims, 184.930 acres, in Sec's. 24 and 25, T. 14 N., R. 9 E., and Sec's. 19 and 30, T. 14 N., R. 10 E.

Contest 9809 was filed against the entire group of nine claims by the Regional Forester on July 5,1946. Hearing on the charges is set to be had before Mrs. Estelle Bjerg, Notary Public, Flagstaff, Arizona, on October 22, 1946.

It happens that we have one extra copy of the Register's Notice of the Adverse charges in the file of Contest 9809, and we enclose herewith this copy as it gives about all the information you ask.

Final certificate has not been issued.

Very truly yours,

J. M. Gibbons,
Acting Manager.

JMG

BOARD OF GOVERNORS:
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DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA

PHOENIX, ARIZONA
518 TITLE AND TRUST BUILDING

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DIRECTOR
W. J. GRAHAM, PHOENX
ASSISTANT TO THE DIRECTOR
AND SECRETARY TO THE
BOARD OF GOVERNORS
FIELD OFFICES AT
GLOBE - KINGMAN
PRESCOTT - TUCSON

July 30, 1941

REPLY TO

Mr. Claude L. Hubbard
Box 560
Winslow, Arizona

Dear Mr. Hubbard:

R. H. West, Route 2, Deming, New Mexico, has advised us that he is looking for a manganese prospect. He writes, "I am not looking for a developed mine but a prospect that might be worth some development. I would prefer to handle three or four such properties at the same time."

Along with the other manganese properties that have been listed with us we have submitted a brief description of your property and hope that Mr. West will find it sufficiently interesting so that he will communicate with you for more detail. We must appreciate that the prospective buyer has to have a property attractively presented so that the presentation will encourage him to make a trip to look it over personally. In other words, based upon the first presentation the buyer decides whether or not he is going to look further into that particular mine and very often a good opportunity is passed up simply because of improper or insufficient presentation.

As you will appreciate, the Department of Mineral Resources' appropriations have been cut off by the Governor and, therefore, we have not been able to do the clerical work in making copies of reports and sending full data to these prospects, and we will not be able to do that until such time as our state department is restored.

I am, therefore, writing you that your property has been submitted to Mr. West with the idea that you might like to write him direct and send him full information regarding what you have.

If you should be able to do business with him in any way, it would be greatly appreciated if you would advise us as we would like to keep a record of the results where the department has been instrumental in bringing buyer and seller together.

Thanking you and hoping that this will benefit you, I am

Yours very truly,

Charles F. Willis
Chairman, Board of Governors
Arizona Department of Mineral Resources

CFW:LP

BOARD OF GOVERNORS:
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DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA

PHOENIX, ARIZONA
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FIELD OFFICES AT
GLOBE - KINGMAN
PRESCOTT - TUCSON

July 15, 1941

REPLY TO

To Owners of Mining Properties Which Are
Listed With the Department of Mineral Resources.

Inasmuch as you have a property listed for sale or financing with the Arizona Department of Mineral Resources, I am sure that you will be interested in knowing the plans for the Department, particularly the work relating to bringing new capital into the state, after July 1.

As you probably know the work of the Arizona Department of Mineral Resources, as it has been conducted during the past two years, must be stopped on June 30 because of the fact that Governor Osborn vetoed the appropriations after they had been enacted by the Legislature. While he has given a number of imaginary and far-fetched reasons for his action, none of them are believed to justify the action which he has taken in deliberately attempting to kill off all opportunities for the small mine operators. Yet that is exactly what has happened.

Because of the blow "below the belt" suffered by the small mine operators, the state financed activities of the Department must cease on June 30 and cannot be resumed until the legislature meets again in special or regular session and restores the Department to those who were being served. We are assured that that will be done in spite of a governor who seems to particularly dislike the mining industry and everybody and everything connected with it.

However, this work of bringing new capital into the state to finance new mine development and make sales of mining properties is too important and has been going too successfully to permit it to die. During the past year more than 38 mine sales are known to have been made through Department activities and there are many prospective buyers who are now looking over the field to see if they can find what they want. The plan under which we have been working has proven to be highly efficient. The ball is rolling well and it is far better and easier to keep it moving than to permit it to stop and get it rolling again.

If the Department had been kept going on the scale which it had, we could have moved many more properties the second year than we did the first, and more in the third year than in the second, for momentum is a powerful influence in keeping more and more customers for mines coming to your doors. The success that we shall have in keeping up the pace in this work is directly dependent upon how well we can finance the continuation of it.

While this work does not take a lot of money, it does take some. Those who are looking for Arizona mines let us know their wishes and the specifications of the mines being sought. There is correspondence regarding that. Then they are sent copies of the reports that we have on every mine that falls within their specifications at costs to make these copies of reports and send them. After this is done there is further correspondence, wires, telephone calls, contacts, etc. until we reach the place where a prospective buyer has checked upon the properties to which he is coming, or sending his engineer, to examine personally and make a deal with the owner or agent.

We are hopeful that we can raise enough money directly among those that we will serve to keep this work up on the scale that it has been going. If each one of those whom we are attempting to serve in this way would assit in financing the work which is being done directly and personally for them, we could even do a more extensive job than has been done in the past.

For instance if each one of the 600 whose properties are listed with us would put up $5.00 or $10.00 to help defray the cost of presenting their properties to prospective buyers, we would be able to go at the program in a bigger way and take full advantage of the momentum of the ball which we have gotten started rolling during the past two years, but if we slow down we have the cost and time of getting up speed all over again.

There are many prospective buyers right now who are waiting for us to serve them and find the kind of mining properties that they want and, instead of serving them, we are unfortunately engaged in burying the Department killed by a whim of the governor and financing its resurrection as an activity of the Arizona Small Mine Operators Association.

While we plan to continue this service to all, whether they contribute or not, or even whether or not they are members of A.S.M.O.A., finances may limit us to serving only those who are members or who are paying that proportionate part of the cost incurred in making the presentation of their particular property. Every one should be an A.S.M.O.A. member and contribute his or her $1.00 a year to the work of that association, and every person whose mine is listed certainly should be willing to throw in $5.00 or $10.00 into the pot to help pay for making and sending out copies of reports on their own mines to prospective buyers if we do the work of digging up the prospects.

If we properly finance this work, until such time as the legislature restores it as a state-financed activity, there are some other phases that are being planned which will assist in getting quicker and better results, but we are not in a position to say much about them until we know that we can take on the load. We feel that we can greatly increase our number of customers over the past and - the more customers the more buyers.

Of course, there is no such thing as a guarantee that we can move or finance any one particular property. We can only sell that which our customers want to buy. All we can do is to have full facilities for calling their attention to what you have for sale and do everything possible to get them looking in your direction. Now that the state pocketbook has been cut off, even though the state benefits greatly from every deal made, we can only go as far in this work as those who have something worth buying are willing to finance the proper display of their wares to the right people.

We will appreciate your financial cooperation in making it possible for us to keep up the work, which the governor is trying to destroy, of helping you. We believe that you will find it well worth your while. If you feel that you can help, mail your contribution to A.S.M.O.A., 518 Title and Trust Building, Phoenix, Arizona. Many thanks.

Yours sincerely,

Charles F. Willis

Chairman, Arizona Department of Mineral Resources
State Sec. Arizona Small Mine Operators Association.

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Charles F. Willis

Chairman, Arizona Department of Mineral Resources
State Sec. Arizona Small Mine Operators Association.

ML-48

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
OWNERS MINE REPORT

Date September 9, 1940

1. Mine Last Chance Group (Manganese)

2. Mining District & County Blue Ridge Mining Dist.

3. Former name

4. Location 57 miles south of Winslow, near Long Valley. (Coconino County)

5. Owner Claude L. Hubbard, L. T. Neilson

6. Address (Owner) P.O. Box 560 Winslow, Arizona

7. Operator Same

8. Address (Operator)

9. President Unincorporated

10. Gen. Mgr.

11. Mine Supt.

12. Mill Supt.

13. Principal Metals Manganese

14. Men Employed Only the owners

15. Production Rate Not established

16. Mill: Type & Cap. None

17. Power: Amt. & Type None

18. Operations: Present Developing and also mining some ore for shipment.

19. Operations Planned Not stated.

20. Number Claims, Title, etc. Three unpatented lode claims, all within National Forest Boundary.

21. Description: Topography & Geography The property is situated in the rolling country above the Mogollon Rim between the towns of Pine and Winslow. This country is cut by deep canyons and is heavily forested with natige pine timber and other forest growth. Elevation not stated but probably in the neighborhood of 7000 ft. above sea level. Slopes in general are not particularly steep excepting where the canyons cut through the rim. Winter climate is quite severe in some years, with heavy snowfall.

22. Mine Workings: Amt. & Condition

Work thus far consists of miscellaneous cuts and shallow shafts, the deepest of these being 22 feet.

(over)

23. Geology & Mineralization [illegible]e ore occurs on this property [illegible] bedded deposits in the [illegible]edimentary series which form t[illegible] [illegible]ogollon Rim. The sedimentaries are covered almost entirely by various flows of Tertiary lavas, being exposed most fully along the sides of the deep canyons which cut through this area. The manganese is found in the form of nodules of psilomelane in a layer of red clay which lies between limestone and sandstone...Assays of the ore show a manganese content of from 42% to 58% with from 3 to 8% silica, 1 to 3% iron and very small amounts of barium sulphate, from nil to .41%.

24. Ore: Positive & Probable, Ore Dumps, Tailings (Usually from nil to a trace.

No tonnage or ore blocked out as yet. Work done thus far shows thicknesses of from one to over eight feet. Continuity of the bed has been traced over the length of two claims.

24-A Vein Width, Length, Value, etc. Impossible to evaluate ore body without further development.

25. Mine, Mill Equipment & Flow Sheet None

26. Road Conditions, Route Good road to the mine from State Highway 65, or from the U. S. Forest road.

27. Water Supply Water is being hauled in from Clover Springs, a distance of approximately 4½ miles from camp. The supply is plentiful and the water excellent.

28. Brief History Some ore was hauled from here in 1902 to the smelter at Clarkdale for use as a flux. I understand that a total of 17 cars were shipped out of here during the World War. Dr. Paul Sprankle of Winslow told me that he shipped 7 cars out of here about nine years ago. Quit because of the low price of manganese at that time.

29. Special Problems, Reports Filed I would say that if this section is to produce manganese ore throughout the year, there should be some effort made to induce the Forestry Service to keep the road open during the snowy season. This should also be called to the attention of the State Highway Department regarding Highway 65 from here to Winslow, the nearest railroad shipping point, a distance of 57 miles from Long Valley Store.

30. Remarks

31. If property for sale: Price, terms and address to negotiate. Want party or parties to buy either a third interest or the entire property. Communicate with owners for price and terms.

32. Signed.....

33. Use additional sheets if necessary.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
MINE OWNER'S REPORT

Date September 9, 1940.

. Mine Last Chance Group (Manganese)

2. Location 57 Miles south of Winslow, near Long Valley. (Coconino County)

Mining District & County Blue Ridge Mining District

Former name

Owners Claude L. Hubbard
L. T. Neilson

6. Address (Owner) P.O. Box 560, Winslow, Arizona.

Operator Same

8. Address (Operator)

President, Owning Co. Unincorporated

9A. President, Operating Co.

. Gen. Mgr. None

14. Principal Minerals Manganese

. Mine Supt. "

15. Production Rate Not established

. Mill Supt. "

16. Mill: Type & Cap. None

. Men Employed Only the owners

17. Power: Amt. & Type None

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Developing and also mining some ore for shipment

. Operations: Planned

Not stated

. Number Claims, Title, etc.

Three unpatented lode claims, all within National Forest Boundary.

. Description: Topography & Geography

The property is situated in the rolling country above the Mogollon Rim between the towns of Pine and Winslow. This country is cut by deep canyons and is heavily forested with native pine timber and other forest growth. Elevation not stated but probably in the neighborhood of 7000 feet above sea level Slopes in general are not particularly steep excepting where the canyons cut throug the rim. Winter climate is quite severe in some years, with heavy snowfall.

. Mine Workings: Amt. & Condition

Work thus far consists of miscellaneous cuts and shallow shafts, the deepest of these being 22 feet.

Geology & Mineralization

The ore occurs on this property in bedded deposits in the sedimentary series which form the Mogollon Rim. The sedimentaries are covered almost entirely by various flows of Tertiary lavas, being exposed most fully along the sides of the deep canyons which cut through this area. The manganese is found in the form of nodules of psilomelane in a layer of red clay which lies between limestone and sandstone.. Asssays of the ore show a manganese content of from 42% to 58% with from 3% to 8% silica, 1% to 3% iron and very small amounts of barium sulphate, (from nil to .41%. Usually from nil to a trace)

Ore: Positive & Probable, Ore Dumps, Tailings

No tonnage of ore blocked out as yet. Work done thus far shows thicknesses of from one to over eight feet. Continuity of the bed has been traced over the length of two claims.

Dimensions and Value of Ore body

Impossible to evaluate ore body without further development.

Mine, Mill Equipment & Flow-Sheet

None

Road Conditions, Route

Good road to the mine from State Highway 65, or from the U.S. Forest road.

Water Supply

Water is being hauled in from Clover Springs, a distance of approximately 4½ miles from camp. The supply is plentiful and the water excellent.

Brief History

Some ore was hauled from here in 1902 to the smelter at Clarkdale for use as a flux. I understand that a total of 17 cars were shipped out of here during the World War. Dr. Paul Sprankle of Winslow told me that he shipped 7 cars out of here about nine yea rs ago. Quit because of the low price of manganese at that time.

Special Problems, Reports Filed

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Remarks

If property for sale: Price, terms and address to negotiate.

Want party or parties to buy either a third interest or the entire property. Communicate with owners for price and terms.

32. Signature.....

Phoenix 082157 "N"

DECISION

United States, contestant	:	Mineral contest No. 9809 involving Baxter, Last Chance No. 1, Magna Nos. 1 and 2, Shafer Nos. 1, 2 and 3, and Psilomelane Nos. 1 and 2 lode mining claims embraced in Mineral Application 082157, Mineral Survey No. 4291.
v.	:	
J. Reed Denison, contestee	:	

Acting Manager's Decision Affirmed.

On November 20, 1945, J. Reed Denison, by L. E. Shoup, his attorney in fact, filed application for patent to the nine mining claims mentioned above, located in secs. 24 and 25, T. 14 N., R. 9 E., and secs. 19 and 30, T. 14 N., R. 10 E., G. & S.R.M., Arizona, lying within the Coconino National Forest.

On July 5, 1946, the Reginal Forester of Region No. 3, Forest Service, Department of Agriculture, filed a protest against the application for patent, charging:

(1) That no valuable discovery of mineral-bearing rock in place has been made on the claims.

(2) That the land is nonmineral in character.

(3) That the applicant and his predecessors in interest have not expended $500 in improvement work upon or before the benefit of each of the claims.

(4) That the applicant is claiming credit for improvements not constructed by him or his predecessors in interest.

(5) That the lands are of greater value and are chiefly valuable for the timber thereon and are of no practical value for mining and milling purposes.

(6) That the applicant is not seeking patent in good faith to acquire the land for bona fide mining and milling purposes, but to acquire the land for purposes other than mining.

On July 22, 1946, L. E. Shoup, as attorney in fact for J. Reed Denison, filed an answer to the adverse charges. The contestant demurred to the answer because it was executed by an attorney in fact when it should be executed by the applicant himself, and on August 2, 1946, Denison himself filed an answer wherein he denied the charges and applied for a hearing.

The original hearing was held before Estelle Bjerg, Notary Public at Flagstaff, Arizona, on October 22, 1946, and the final hearing before the Acting Manager, District Land Office at Phoenix, on January 7, 1947. Mr. E.S. French, Attorney, appeared on behalf of the Forest Service, and the contestee appeared in person and by his attorneys, Messrs. Donald J. Morgan and Joseph H. Morgan. At the hearing, Mr. French, Attorney for the Forest Service, consented to the dismissal of charges 3 and 4, leaving charges 1, 2, 5 and 6 to be determined on the record.

On April 23, 1947, after the hearing was held, the Forest Service filed a motion to take the deposition of Mrs. M. H. Linesba on the grounds of newly discovered evidence, stating that at the time of the hearings in this case, contestant did not know, and, by the exercise of due diligence, could not have obtained Mrs. Linesba's address; that contestant did not learn of her address until March 15, 1947; that if called, Mrs. Linesba will testify that Mr. J. H. Morgan, acting in behalf of contestee, J. Reed Denison, importuned her during the period April, 1944 to November, 1944, by letter, telegram and long-distance conversations, to sell to Denison the Little Daisy, Mars and Black Cat lode mining claims, which claims are within the exterior boundaries of the claims involved in this contest; that Morgan told her that Denison was interested in the timber on the property rather than the mineral value and that it was because of the timber value that Denison was interested in patenting the claims; and that in corroboration of her testimony she would produce three letters that Mr. Morgan wrote to her in 1944, photostatic copies of which are attached to the motion, together with photostatic copy of a brief written statement signed by M. H. Linesba in which it was stated that Denison and Shafer are interested in patenting the claims for their timber value as they were interested in the timber on the property rather than the mineral value.

On April 28, 1947, the contestee filed objections to the motion, contending that there is nothing in the Rules of Practice which would authorize the Manager to reopen the case and allow the taking of further testimony; that under Rule 42 of Practice the decision of the Manager may be vacated and a new trial granted upon the ground of newly discovered evidence, which could be considered only after the decision of the Manager has been entered, and that the present motion is out of order; that the motion presents no evidence which could legally be considered by the Manager as Mr. J. H. Morgan was counsel for Mrs. Linesba and any statements made by him would be hearsay and could not be imputed to the contestee; and that the Government has not shown due diligence in this matter as the record discloses the address of Mrs. Linesba, and counsel for the Government displayed a full knowledge of the litigation between Mrs. Linesba's principal at the October hearing. The objections are accompanied by an affidavit executed by Mr. J. H. Morgan in which he

states that during the transactions between Denison and Mrs. Linesba in 1944, he was employed by and represented M. R. Linesba in connection with the sale of the claims to Denison, and any statements made by him to M. R. Linesba during said period, were made in his capacity as an attorney for Linesba and not as an attorney for Denison; that he was never employed by Denison to purchase the property, but was employed and acting as attorney for Mrs. Linesba.

By decision of May 1, 1947, the Acting Manager denied the motion to take the deposition of Mrs. Linesba, holding that the case should not now be reopened for the taking of further testimony, except upon a showing of the existence of unusual or extraordinary facts, and a showing that the proposed testimony is of such importance that the rights of the party might be adversely affected if such new evidence is not secured.

It is the opinion of this Bureau, upon consideration of the evidence, that Mr. J. H. Morgan was acting as attorney for Mrs. Linesba in the transaction involving the sale of the Little Daisy, Black Cat, and Mars claims to Denison, and that the testimony proposed to be offered as to statements made by Morgan to Mrs. Linesba could not be imputed to Denison, for the reason that he was not Denison's attorney or agent at the time of the transaction, and therefore would be hearsay and inadmissable. Moreover, the motion is in the nature of a continuance, and the motion was not timely filed (53 I.D. 611). Therefore, the Acting Manager's action in denying the motion was correct, and is hereby affirmed.

On May 19, 1947, the Acting Manager rendered his decision in the case in which he held that the preponderance of the evidence is in favor of the contestee and recommended that the charges be dismissed and that final certificate and patent be issued. The decision allowed the contestant thirty days from receipt of notice within which to appeal therefrom. Service of the decision was had on E. S. French, attorney for the contestant on May 26, 1947 and on July 9, 1947 the Acting Manager transmitted the record in the case to this Office and reported no appeal filed within the time allowed.

However, on June 16, 1947, and within the thirty day period allowed, the Acting Associate Solicitor of the Department of Agriculture filed in this Office notice of Appeal by the United States from the Acting Manager's decision, together with specifications of error and brief, in which it is contended that: (1) The Acting Manager erred in holding that the appellee was discovered, mined and milled substantial amounts of valuable manganese ore at a profit and has a reasonable prospect of further developing the claims in the future; (2) That he erred in holding that

the Government has failed to establish proof that the land is of greater value for timber standing and growing thereon and that it is of no practical value for mining and milling purposes; (3) That he erred in holding that the Government did not sustain its charge that the appellee is seeking patent, not in good faith for mining and milling purposes, but for purposes other than mining; and (4) That he erred in denying the motion of the Government to take the deposition of Mrs. M. R. Linesba on the ground of newly discovered evidence, to which action of the Acting Manager the Forest Service duly objected and excepted. The Acting Associate Solicitor stated in this notice that a copy of the document had been served by registered mail upon Morgan and Locklear, attorneys for the appellee at Prescott, Arizona.

A motion to dismiss the appeal was filed in this Office on July 21, 1947, by the appellee for the reason that no notice thereof was served or filed in the District Land Office in the manner and within the time specified by the Rules of Practice; that under Rule 51 the failure to move for a new trial or to appeal within the time specified, it is provided that the decision as to such party shall be final and will not be distrubed except in case of fraud or gross irregularity; and that no fraud or gross irregularity is alleged or shown. At the same time the appellee filed a brief and argument in which it is argued in substance that the Acting Manager's decision is correct and should be upheld; that the appeal is without merit, and that appellant has failed to comply with Rule 50 of the Rules of Practice which provides, inter alia, that "Where error is based upon insufficiency of the evidence to justify the decision in the assignment thereof, the particulars wherein it is deemed insufficient must be specifically set forth in the notice. All grounds of error not assigned or noticed and argued in the brief will be considered as waived."

By letter dated July 23, 1947, the Associate Solicitor of the Department of Agriculture advised that he had received a copy of the appellee's motion to dismiss the Government's appeal, and that since the Rules of Practice specifically provided that formal notice of appeal is not necessary in the case of claims in nation forests (43 CFR 205.9), they have assumed that it was not necessary to file notice of appeal in the local office.

This Bureau has considered the record in the case in order to determine whether the evidence justifies the decision of the Acting Manager and this has been done without regard to technical objections interposed by the appellee. See the case of Rice V. Simmons (43 L.D. 343, 344, 345), in which the Department held that the Government is a party in interest in every contest and the Land Department may properly consider all that

the record contains in order to do justice in the case, irrespective of technical inter partes rules of practice, and whether the parties themselves are entitled to have any particular portion of the record considered or not. The Department in City of Phoenix (53 I. D. 245, 246), held that a decision of an officer of a local land office, in a proceeding in which the United States is a party, is subject to review sua sponte by the Commissioner of the General Land Office, even though no appeal be filed by a party adversely affected by the decision. See also United States v. Central Pacific Railway Company (49 L. D. 465, 467), and United States v. State of California, et al (on rehearing) (55 I.D. 533, 535).

The burden of proving the charges by a preponderance of the evidence is on the Government.

In the case of Cataract Gold Mining Company et al (43 I.D. 248, 254), the Department laid down the following rule:

> "Lands containing mineral of such quantity and value as to warrant a prudent man in the expenditure of his time and money with a reasonable expectation of developing a paying mine, are disposable only under the mining laws, notwithstanding they may possess a possible or probable greater value for other purposes."

The evidence shows that the deposits of manganese in this area have been known for a number of years, and that they were first worked during World War I and later for a short time during the depression in 1929; that the appellee, Denison, has been engaged in the manganese business continuously since January, 1924, operating properties in Arkansas; that he came to Arizona in 1941 looking for more mining properties after having read the Minerals Year Book showing Arizona production of manganese; and that the Arizona Bureau of Mines office in Tucson told him about these particular mines. He acquired these claims and began mining manganese from them in 1942. Between the time he began operation of these claims to and including the year 1945, he shipped approximately 1,932 short tons of manganese ore for approximately $66,000, mostly to Metals Reserve Corporation, a Government corporation, but six cars were shipped to a steel company. He stopped mining on the claims during 1946, and has sold the 35 per cent ore for that year, but is keeping the ore above 35 per cent in stockpile waiting to take advantage of the 25 per cent Buy-American provision in the Government's stockpiling program for strategic minerals.

In 1944 one E. DeLaby, claiming to be the owner of the Little Daisy, Black Cat and Mars mining claims, in conflict with the above-mentioned claims of Denison, brought suit against Denison in a local court to recover the value of the manganese ore removed from the claims by Denison. Decision was rendered February 11, 1944, quieting title in the plaintiff and awarding judgment in the amount of $2,650.00 for the ore removed from the claims. Denison later purchased the claims from DeLaby by deed dated September 19, 1944.

Louis C. Mackel, Mineral Examiner for the Bureau of Land Management, testified for the Forest Service that he had examined the land in May and October, 1946; that the claims have been worked chiefly for manganese, and that there are minerals of manganese on all the claims in varying quantities, but that some were irregular and erratic deposits with no large bodies in any one place; that much of the mineralized horizon has been erroded from the claims; and that he does not believe that the deposits are of sufficient magnitude or value to be mined and marketed at a profit, or to justify a prudent person in the expenditure of his time and money in the hope of developing a paying mine during his lifetime, and that there is no valid discovery on the claims.

Edwin R. Sievers, Mineral Examiner for the Forest Service testified, in substance, the same as Mackel. He took twelve samples from the claims which were split and half of each sample given to Denison, and the portions retained were sent to the Prescott Engineering Company for assay for manganese. The assay certificates which were introduced in evidence as Government's Exhibits A, B, C and D, show manganese values for the samples running from 19.75 per cent to 42.28 per cent, or an average of approximately 31 per cent, which would indicate a comparatively low grade of manganese ore.

Mr. Denison testified and submitted evidence consisting of copies of the income tax returns for Denison and Shafer for the years 1942 and 1943 showing net taxable income from the claims in question of $2,814.28 for 1942 and $3,043.76 for 1943, and returns for Baxter and Denison for the years 1944 and 1945, showing net taxable income of $2,037.42 for 1944 and $637.36 for 1945. He further testified that he had put $15,000 into the claims two or three times and that he had gotten this back and more; and there was submitted in evidence as applicant's Exhibits No.s 2 and 13, inclusive, assay certificates of the Arizona Testing Laboratories covering the applicant's halves of the twelve samples which were taken from the claims. These certificates show manganese values for the same samples from 25.25 per cent to 50 per cent, or an average of 37 or 38 per cent, or about 6 or 7 per cent higher than the results obtained on the same samples by the Prescott Engineering Company, which assayed for the Government. The appellee has introduced in evidence as Exhibits 42 A through G correspondence showing that the Volhard assay method used by the Arizona Testing Laboratories gives total manganese and is therefore more reliable than the method used by Prescott Engineering Company.

The evidence also shows that Denison has used a hand picking system of mining referred to as "gophering"; that by digging the ore out with picks and shovels and selecting it, it is easy to separate it from the impurities and thus is the best method for operating this type of property, and that, by further handling the ore with ore forks, the clay

and other impurities are separated from the ore which results in an increase in the manganese content of the ore by the time it is shipped of approximately 10 per cent. This is born out by the testimony of Leonard A. Baxter, S. V. Vickers and J. A. Lindsay, practical miners, who worked for Denison both in Arkansas and on the claims in question. They also testified that only about 5 per cent of the total deposit had been mined and that about 95 per cent of the ore still remains in the ground, and that there is sufficient quantity there to constitute a valid discovery. The evidence indicates that only about 10 per cent of the total area covered by the claims has been mined.

Mr. A. C. Nebaker, Mining Engineer for the Arizona State Department of Mineral Resources, testified that he went on the cliams in 1942 and found a nice stockpile of high grade manganese ore; that he was on the claims again in 1946 and that there is definitely a valid discovery on the claims.

J. A. Quigley, Mining Engineer, made an examination of the land in 1943 and found a large stockpile of ore, and he is of the opinion that there is valuable mineral on the claims.

Charles H. Dunning, Mining Engineer and Director, Department of Mineral Resources of the State of Arizona, stated that he has not been on the claims personally but that his Department considered these claims as having possibilities and he thinks that it was through his Department that Mr. Denison was brought into the picture as an operator particularly qualified to put it into operation.

The appellant contends in its brief, in substance, that appellee did not make a profit on the claims, and that even if he did, it was only because the buying of manganese was subsidized by the Government through the Minerals Reserve Corporation during the war; that there is no market now for manganese and that mining properties which can be worked at a profit only during times of national emergencies are not valuable discoveries such as to justify a reasonably prudent man in expending his time and money in the hopes of developing a paying mine. None of these contentions are borne out by the evidence. The evidence clearly shows a profit during the years 1942 and through 1945, and that there is a market for manganese, or was a market in 1946 as appellee introduced in evidence as Exhibit 37, 38, 39 and 39-A orders which he received in July, October and November of that year from the Woodward Iron Company and Koppers Company, Inc., for low-grade manganese ore, and he stated in his testimony that he has made no further shipments as he is waiting for the Government to begin buying under the new stockpiling act which would provide a 25 per cent subsidy for domestic manganese in order to take advantage of the higher price. Even though appellee may not be selling ore at the present, it is sufficient if the claims possess a prospective

value for mining purposes. See East Tintic Consolidated Mining Claims (40 L. D. 271, 273, 274). Also, in the case of United States v. Langmade & Mistler (52 L. D. 700), in which case the Forest Service had protested the patenting of a mill site in a National Forest, contending that the land covered thereby was more valuable for recreational purposes, it is noted that the lode claim, supporting the attempted mill site location, was admitted to be valid by the Government examiners as containing valuable deposits of tungsten which had been mined under a former location during the World War, but had not been mined since then. The case was decided in August, 1929.

A discovery of a vein or lode of rock in place bearing valuable mineral is necessary to sustain a lode location, but an actual disclosure of commercial ore is not essential to effect an adequate discovery. See United States v. Bunker Hill etc. Company (48 L. D. 598) and East Tintic Consolidated Mining Company (43 L. D. 79). Furthermore in decision A-24352 OF February 24, 1947, involving Mineral Entry Billings 038594, the Department held that in order for a (mining) location to be valid, there must be a discovery of mineral within the limits of the claim located and the discovery must be such as would justify a person of ordinary prudence in the further expenditure of time and money with reasonable prospect of success in developing a profitable mine. In support thereof the Department cited Cameron v. United States, 252 U. S. 450, 459 (1920); Chrisman v. Miller, 197 U. S. 313, 322 (1905); Jefferson-Montana Copper Mines Company, 41 L. D. 320 (1912); and Cataract Gold Mining Company, 43 L. D. 248, 254 (1914).

The weight of the evidence is in favor of the appellee and it is believed shows that there is manganese mineral in these claims in sufficient quantity and of sufficient quality to justify a reasonably prudent man in expending his time and money in the hopes of developing a paying mine. He has already mined at a profit and has good prospects of continuing to do so. This disposes of the first and second charges.

As for the fifth charge that the lands are of greater value for the timer standing and growing thereon, and are of no practical value for mining and milling purposes, the Department held in the case of Helen V. Wells et al (54 I. D. 306, 307) that:

> While the existence of valuable timber on a mining claim, though in a National forest, in no way qualifies the locator's rights under the mining law if he has a valid claim, it is a proper element for consideration in determining the weight and credibility to be attached to the

> testimony in determining the character of the lands; and the fact that the tract contains some valuable timber and timber that will grow into value, supplies an additional reason for clear and convincing evidence that the land is valuable for mineral before title should pass from the United States.

The evidence shows a valuable stand of virgin pine timber on the land, but no determination will be made as to whether the land is more valuable for timber than it is for mining purposes, because, under the rule in Helen V. Wells, that fact, if proven, would be immaterial since it has been determined that the evidence as to the mineral value of the land is clear and convincing enough to patent the mineral entry. (See also 43 L.D. 248, 52 L.D. 700, 705).

The sixth charge questioning the appellee's good faith, in that he is seeking to acquire the land for purposes other than mining, is not borne out by the evidence. It is based upon the fact that the land is valuable for its timber, and the supposition that it is more valuable for that than for mineral and, therefore, he is interested in acquiring it for the timber. The appellee introduced two character witnesses, G. E. Roberts and H. F. Wolford, both of Batesville, Arkansas, who testified that they had known the appellee for approximately twenty years and that he had been engaged in the business of mining manganese in Arkansas ever since they had known him and had not been engaged in any other business; that he has a first class reputation for honesty; that he does not pay any attention and never did to the lumber business and has never sold any timber off his mining properties in Arkansas and did not sell the timber because he wants it for his mining business; and Wolford further stated that he did not believe anyone in Batesville would ever believe a statement or charge that appellee did not seek a patent in good faith. The appellee himself testified that he has never been in the lumber business or interested in it, and that he believes the existence of timber on mining properties makes the property more valuable for mining purposes. There is insufficient evidence shown to question his good faith in seeking this property for mining purposes. Furthermore, he stated that he is seeking the patent so that he can acquire title to the land for continuing his mining business so that he would not be further bothered by persons showing up to lay claim to the property such as in the DeLaby suit, as well as one or two other persons who showed up to cause trouble.

Accordingly, the decision of the Acting Manager is affirmed and the protest of the Forest Service is dismissed. This decision will become final thirty days from notice. The protestant has the right to appeal.

In view of this decision, it is not necessary to consider the motion made by the appellant to continue the case for one year in order to permit the appellee to determine whether or not he can make a profit out of these claims.

FRED W. JOHNSON

Director

cc: D.L.O. (2)
Hon. Wilbur D. Mills
Solicitor, Department of Agriculture, Washington, D. C. (4)

PLS/jmb: 1/8/48

ABSTRACT OF TESTIMONY
TAKEN BEFORE MRS. ESTELLE BJERG, NOTARY
PUBLIC, SUPERIOR COURT ROOM, FLAGSTAFF,
OCTOBER 22, 1946

E. S. French, representing Regional Forester.

D. J. Morgan, representing applicant.

CONTEST NUMBER 9809

Government Case

The Government first called Louis E. Mackel, Field Examiner, Department of the Interior, Bureau of Land Management, who testifyed as follows:

That he is a graduate of the Montana School of Mines and has been a mining engineer for many years and familiar with the claims in question; knows the applicant. He examined claims in May, 1946, and October, 1946, in his official capacity. Found the conditions the same on the October examination, except that additional work had been done. There is sufficient work and improvement on each claim to meet requirements for patent purposes. There is evidence of mineral and manganese is present on all claims. In answer to question, "Is there a discovery of valuable mineral rock in place?", witness answered, "In my opinion I do not believe a valid discovery of mineral rock in place has been made on the claims." He further testified that considering the geology of the deposit, he did not believe the deposits are of sufficient magnitude or value to justify a reasonably prudent person to expend moneys in the hope of making a paying mine during his lifetime. Manganese is not a rare mineral. It occurs nearly everywhere. There are a number of old workings, some of which are 25 years or more old. He made no investigation of the old locations. Was advised by others that the property had been worked and located a great number of years. He did not know how much was done by the applicant, but presumed he had made the greater portion of the improvements on the ground. The area is hilly, covered by a mat of pine needles and some rocky soil from the erosion of limestone and sandstone. There is excellent pine timber on the land.

Cross-Examination

Witness testified that he had never operated or mined manganese and that he had never watched a manganese operation or watched manganese being mined. He compared this operation with similar operations elsewhere that had ended in failure. It was his opinion that a successful operation of manganese extraction needed to be near a market. That he had no experience in mining or marketing manganese. He testified that he saw deposits of manganese mineral on the property in limestone and sandstone, but that in his opinion much of the manganese had eroded away. He is familiar with very few manganese operations and thinks most of them have been unsuccessful. As to the timber, there are occasional trees that have been hit by lightning and others affected by dry rot.

Re-Direct Examination

Witness Mackel testified that he had been a mineral examiner of mines since 1919, 26 years. That he had practiced his profession previous to entering the Government service.

On re-cross, in regard to the Baxter claim, the January, 1945, location was mentioned in the abstract. The witness had no knowledge as to whether the bulk of the workings were older than the location and could not say whether Magna No. 1 and 2 had the bulk of the workings made prior to location. Could not say if any of the claims had a substantial part of the improvements made prior to or before location by applicant. Read from U.S.G.S. Bulletin 710-D, Page 126, reciting work in 1917 and 1918, no ore shipped, 100 tons on dumps. Witness read from report of James T. Ransome therein for corroboration that the difficulty of shipping was the reason the claims did not pay at that time. Thought that the shipping facilities then were about the same as today. Reaffirmed his position that the reason he did not consider operation as being potentially successful as being the difficulty of shipping.

The Government next called Mr. Sievers, Registered Engineer and Field Examiner, Forest Service, who testified as follows:

Graduate of Rolla Missouri School of Mines, B.S. and M.E. Has worked for the Anaconda Copper Company at Butte; Colorado Fuel and Iron Company; Cerrodeposa Mining Company, at Casa Polca, Peru, and Ennis Mining Company in Indiana. Since 1934 has been mineral examiner for the Forest Service, except for about three years in the army.

Witness testified:

He examined the property when the Humphrey Gold Corp. peoplewere working in the area five or six years ago. He has no records of his examination at that time. On May 17, 1946, he examined in company with Rangers Hagen, Summerfield (Asst. Manager), Mr. L. C. Mackel and Mr. E. S. French. On October 17, 1946, he examined again accompanied by all of these people, except French, and in addition, Mr. Denison, the applicant, his attorney, Mr. Morgan and Mr. Leonard Baxter, J. Albert Lindsay, Solomon P. Vickers and Mr. Koogler of the Forest Service.

His findings were as follows:

In May, 1946, inspected all workings shown on maps in work sheet and found them to be as represented in the application. The workings showed some manganese mineral general erratic disseminated. The mineral appeared to lie in large nodules or beds. On his October inspection he found new workings which had been excavated since the previous examination. with various quantities of manganese therein--some spoty--others more extensive in nudules and beds. He identified the following assay certificates of Mr. Kasey, Assayer in Prescott:

Exhibit A - Samples SD 1, 2 and 3.
Exhibit B - Samples SD 4, 5 and 6.
Exhibit C - Samples SD 7, 8 and 9.
Exhibit D - Samples SD 10, 11 and 12.
Exhibit E - Samples taken in May visit.

These are identified and connected with the claims as follows:

Name of Claim	Sample	Description
Magna No. 1	1	18" of manganese oxide, new adit near center of claim.
" "	4	30" in manganese oxide.
Magna No. 2	11	a 48" sample " "
Psilomelane No. 1	3	10" " "
Psilomelane No. 1	12	8"

Name of Claim	Sample	Description
Pallomelano No. 2	2	10" in manganese oxide
Shafer No. 1	5	18" " " "
Shafer No. 2	6	30" " " "
Shafer No. 3	7	12" " " "
Shafer No. 3	8	30" " " "
Last Chance No. 1	9	4' " " "
Baxter	10	15" " " " (Also some limonite noticed in this sample).

The witness testified that the above samples were taken by Messrs. Lindsay and Vickers who are manganese miners working for the applicant. That he instructed Mr. Kasey, the assayer, to assay for manganese, iron and insolubles. That sample No. 7 taken on Shafer No. 3 was taken by Mr. Mackel and Mr. Denison, or at least they were both in the adit. In response to the question, "What is your opinion as to the presence or absence of a valuable mineral discovery?", witness answered: "I found manganese minerals in place. I did not find enough in large bodies or indications of enough in large bodies to warrant recommending them to a client for purchase."

Cross-Examination

Witness testified he was not familiar with manganese mining and had never been engaged in manganese mining operations. He described the type of operation on this property as more or less "Gophering". That in his opinion manganese mining is expensive. That he had seen operations in Missouri. That the test as to whether a manganese mining or other mining operation is valuable is whether it will show a profit over a period of time. This is the test to an engineer. That he took the one sample in May on his visit to the property which showed 35.62% metallic manganese and .005 oz. of gold. That the assayer was Hawley & Hawley, Douglas, Arizona. That this sample was taken across 3' of manganese oxide.

The next witness for the Government was Roland Hatto, graduate of Iowa State College Forestry Department. Has done woods work in Louisiana, Minnesota, Montana, Colorado, Wyoming, and in 1936 came to Coconino Forest in Arizona, where he has remained except for two years during the late war. He is attached to the Timber Department staff of the Coronino Forest. Duties are supervision of work, selling, appraising, checking volume and defects of the timber on the Coconino Forest.

Witness testified that he is familiar with the general location of the claims in question. Testified when questioned as to the worth of the timber on the claims that there are two valuations; Forest Service valuation which bases prices on OPA regulations. On this basis the value will be approximately $5.00 per thousand board feet, if cut under Forest Service restrictions. If cut without restrictions as to conservation or "clear cut", he believed it would bring $7.50 per thousand board feet as it stood on the ground. That OPA price for this type of lumber after it is milled and sawed into boards, is $38.50 per thousand board feet. That the Forest Ranger for this district in Long Valley is Ranger Hagan. That he cruised the timber and according to his figures there are on the claims in question 2,800,000 board feet after deductions for defects. It is all Ponderosa Pine and there are many large trees. That this mining operation lies principally within an area of experimental forest which was designated by the Chief Forester in 1936, covering Sections 25, Township 14 North, Range 10 East, and 30, Township Fourteen North, Range 9 East, as well as two other sections that these claims do not affect. An exhibit was introduced on

behalf of the Government showing the said designation of the experimental area.

Witness testified that 2,846,000 board feet at the milled or finished price for the lumber at $38.50 would be worth $109,571.00. That he thought the timber standing would readily sell at the ceiling price of $6.00 per thousand board feet and at this figure the stumpage on the claims would be worth $17,076.00 at the present time.

Witness detailed the restrictions of the Forest Service to prevent erosion, culling and damaging standing timber in other conservation practices used by the Forest Service in their sale of timber. He testified that they are managing the Flagstaff Working Circle to produce timber forever, cutting about 2½% of the growth per annum. That the timber on these mining claims would be managed on that basis if the Forest Service owned them. That at present a saw log is designated as any log 12' x 10" in the small end. If the timber were clear cut the ground would be out of production for timber for one hundred years and the water shed would be damaged. That the economic effect of the Forest Service Management gives a substantial yield over a long period of time and assures employment. That there is a revenue to the county of 85¢ on each dollar taken in by the Forest Service from sale of timber in the county, plus 10¢ for roads. Witness further testified that private holdings in the area, when there had been private holdings, were all clear cut. He testified that mineral resources could be used but once as they are subject to depletion and are not alive and that timber production is perpetual.

Cross-Examination

Witness testified that theaverage price per thousand board feet for stumpage for the last twenty years would be about $2.50. That in the last five years this has been the average price. That in the last year or two it has nearly doubled to the figure of $5.00 or $6.00. That the average income per acre over the next one hundred years would be rather small. That there are available about 15,000 board feet per acre on the basis of his figures. That the average price over the last five years, at even as high as $3.00 per thousand, the ground would be worth $45.00 per acre for timber. That on the first cutting under Forest Service Management only half of the virgin timber would be cut. This would bring a revenue of $22.50 per acre and only one-fourth would be cut in the next twenty-five years and succeeding quarter century periods.

These figures are based on the assumption that $3.00 per thousand board feet would be the average price over a long period of time. That $2.50 was the average price for the past twenty years. That he had no knowledge or information as to whether this applicant, were he to get the patent on these mining claims,would or would not clear cut the land of its timber. That there had been no private holdings in the Forest for some twenty years. That he did not know the effect of the income tax rules on whether a man would deplete all his resources at once. That the Forest Service has a cooperative timber management plan to market private timber lands. That they would be glad to enter into a cooperative agreement with Mr. Denison if he gets his patent, and manage the timber similar to the Forest lands.

The next witness for the Government was Mr. George Meager, who is Forester with a Southwest Ranger Experimental Station and is engaged in research work on Ponderosa Pine.

That he has done work on the area involved, surveying and inventorying timber. That he has no knowledge of the merits of the protest here involved. That he has not inventoried the timber on Section 30.

Mr. James A. Hagan, District Forest Manager of the Long Valley district, a graduate of University of California Forestry Department, with a Master's Degree in Forestry, testified that he had been in the Forest Service since 1935. That there is a timber stand on the claims of applicant totaling 3,603,531 board feet less about 20% defective timber because of rot, splits, cat faces or burns, leaving the net of 2,846.789 board feet previously mentioned. That the gross amount per acre on the said mining claims is 19,000 board feet less the defective timber, making 15,000 board feet per acre of usable timber. That the qualify of this timber is some of the best in the southwest. That it is the best on this Forest. That he thought the application seemed to be in bad faith. That he had talked with a man whose name he did not know a couple of years ago who told him that Mr. Denison was going to get a saw. Mr. Henry C. Summerfield, Assistant Ranger, Long Valley, testified that he had been ranger for many years and knows the history of the claims in question. That Mr. Linesba worked the claims; that Mr. Shafer worked the claims; that the Colorado Gold Corporation worked the claims, and left after considerable machine work and drilling in 1940-42. That Mr. Denison came to the area about three years ago. That Mr. Neilson had worked the claims in the area. That he had heard from one man who had worked on the claims that Denison had planned to put up a saw mill. That he did not know his name. That on several occasions Denison's men had helped put out forest fires in the area. That the miners in the area were very useful for fire fighting to protect the forest.

Mr. J. Reed Denison, applicant herein, was called by the Government for cross-examination and was asked to look over the application, and stated that the same was substantially correct. That the production figures therein were between 1942 and 1945, and that they were substantially correct. That the disputed area on which Mr. Linesba had claims was covered by the Shafer No. 1, Magna No. 1 and Psilomelane No. 1. That he had extracted approximately 700 tons of manganese mineral from the land in dispute. That the disputed claims of Linesba and his principal covered by the original and by the amended notices of location, extended over about 120 acres. That he had paid damages in the sum of $2750.00 for the mineral he had taken from the Linesba claims. That he purchased the claims from Linesba after the lawsuit and has a deed for the same. That he bought the Baxter claim from a Mr. Payne who had located and done assessment work on the same in 1941. That he relocated the claim in 1945 as the "Baxter". That the Payne claim was originally the "Wild Rose", he believes. That he identified and filed on advice of counsel the notice of suspension of work for 1944 and 1945. That work was done, but not being familiar with the mining laws, he thought it would be safer to file a notice.

That he has been mining manganese since February 24; that 90% of his income has been from manganese mining since that time to the present. Admitted he had written a letter to Mr. Fairington in 1943 to see if manganese was still a desirable commodity after the capture of Africa. Explained a No. 3 classification. Was questioned whether since March 22, 1943, manganese has been critically short in the United States, and testified in response that it has always been critically short in the United States. That without it the steel mills would be forced to close. If Russia should stop shipping manganese, they would all have to close, except for a small domestic supply. This is the reason for stock-piling during the late war. That most of the manganese used in this country comes from Africa

and India and some from Russia. That the price today is 55¢ for 20% ore. That he is at present selling and has a contract to sell 20% ore at 55¢ per unit. That the ore on these claims in Long Valley would bring 90¢ per unit on the basis of 55¢ per unit for 20% ore. That he averaged over 42% metallic manganese content and is still averaging the same on the Long Valley claims. That for the first couple of years of his operation he averaged a little lower. That he has three more claims located and is holding the same in addition to the ones for which he has applied for patent. That he and his son have sixteen claims near Heber, Arizona. That he thinks the timber on these claims looks fairly good. That with the permission of the Forest Service he purchased and sawed some timber on the Heber claims in order to build miner's cabins. That he sold the saw and has not been in the sawing business at any time. That he owns all of the claims. That his former associate, Mr. Shafer, deeded everything to him. That Mr. Shafer went back to farming when the two of them encountered difficulties over theprevious locaters in which they were forced to buy out some $6,000.00 to protect the claims. That his matter of title had discouraged Shafer from attempting to mine on the forest. That the uncertainty of title and holding, is demonstrated by these lawsuits, were the main reasons he has applied for patent to insure his title to the claims. That L. E. Shoup, an attorney in fact for him on the application is a resident of Arizona and holds by location claims adjoining those for which he applies for patent. That the said Shoup is a dentist in Prescott, Arizona. That he has been on the claims many times during the past several years. That the affidavit of Mr. Huff as to the amount of minerals extracted/on his knowledge and information. That Mr. Huff lives in Long Valley. That the affidavit of Baxter is on his own knowledge and information from Denison, and Denison and Shafer records. That Mr. Baxter worked on the scales and operated the claims and worked on the claims. That records of shipments were kept first at the mines and later on his own records. That he did locate the Baxter on January 20, 1945. That the weather was very bad at that time and he was on the claims at that time. That he and Baxter saved the lives of three women caught in the snowstorm while they were their locating the claims. That some of the work on the Baxter claim was done by him after the location--some of it before the location. That all of the old work was purchased or done by witness and his employees. That there are very few workings on the claims not done by Denison or his predecessors in interest. That the geological survey report shows there was but one carload mined from the area in 1920. That this amount is about all that has ever been taken out and sold except by himself and his predecessors.

The Government thereupon rested, having presented the following exhibits:

12 samples taken in October, 1946.
1 sample taken in May, 1946.
Letter from Chief Forester, designating experimental tract.
Reference to photostat copy of abstract of title furnished by applicant, not formally introduced but which referred to in our part of record.

APPLICANT'S CASE

Mr. Leonard Baxter was called as first witness on behalf of applicant. Testified that he worked nine or ten men on these claims in the spring of 1944. That the operation is

mostly pick and shovel work by shaft in the tunnels, as well as open cuts. That during 1944, between the spring and the fall, they extracted 648,934 lbs. of manganese ore, which were sold for $13,683.64. That there were 324½ short tons extracted at that time. That in the spring of 1945 he resumed work on the claims and extracted during that season 487,280 lbs. of manganese ore, which were sold for $10,049.09.

That he has worked in and about manganese mines and operations since August, 1934. That he is familiar with the manganese mining, supervising and marketing. That from the character of the deposits and the development and exploration work that has been done on these claims, he estimates that only 3% of the manganese therein has been extracted. That 97% of the deposits is still in the ground and can be profitably mined.

Cross-Examination

Witness Baxter testified that he has worked for the Walter H. Denison Company in manganese operations since 1934. Had one year of Liberal Arts work in college. That he has supervised, mined, sampled, graded and done general executive and managerial work, underground surveying and maping. That there will be somewhat added expense in operating these claims as they go deeper. That the increase in quality of the deeper deposits will compensate for the extra cost of development. That although he has no technical knowledge of geology and minerals, he has always found that manganese deposits increase in quality and quantity in depth below the surface. That he is not working at present. That he had some work in Colorado in June, and went to work for the Santa Fe Railroad in August. That he is returning to Arkansas. That he worked with a 6 ft. bed of manganese ore on Magna No. 1. That Mr. Vickers worked with him. That his compensation averaged from $50.00 a month in 1934 when he started working in manganese operations, to $250.00 per month in 1944. That his compensation in the year 1944 was on the basis of 50% of the profits. That he did not want to work this year on a profit-sharing basis because he needed to be assured of a market and had no reserves to fall back on in case the Minerals Reserves Corporation did not buy, and he had no permanent contracts to sell the manganese to as Mr. Denison has. That the Minerals Reserves Corporation stopped buying in January, 1946, but that he is advised they are going to start again in 1947 to keep up the stockpiles.

Solomon F. Vickers was called on behalf of applicant. He testified that since 1936 he has worked in manganese operations in Arkansas, until 1943, and then he came to Long Valley with Mr. Denison. He sampled and did development work for the Bureau of Mineral Resources during the war, developing additional manganese deposits, and in this capacity he worked eighteen months in Arkansas and eighteen months in Tennessee and West Virginia. That he sampled a great number of manganese operations and deposits. That he is of the opinion that these workings are as good as any he has ever seen. That there is 95% of the original deposits left and that they will be as good in quality as what has been taken out. That he has been digging manganese on shares of similar values for the past ten years more or less. That he has had a great deal of experience with locating and mining manganese deposits. That based on his past experience, there are still very valuable and extensive deposits left on these claims.

Cross-Examination

Witness testified that although he had no formal technical experience, he was a practical manganese miner; that he thought there was plenty of valuable manganese on these

claims. That his experience has taught him how to locate and estimate a good manganese ore body. That although he cannot see under the ground, actually he had to learn to, or not be digging and making his pay. That he has averaged at least $10.00 per day while working on shares. That most of the men who quit the operation don't want to work. That there will be more manganese deeper. That he has been working on these claims since May, 1946. That he dug out ore until four years ago. That for the last four weeks he has been testing and developing. That he got out 50 tons of manganese between the first of May and the first of October--a four month period, for which he has received $12.00 per ton, or $600.00. That the price per ton has not yet been finally determined and he is likely to get a considerable bonus. That he intends to return next summer and operate the very promising prospects that have been uncovered in the development work done recently.

Mr. J. Albert Lindsay next took the stand and testified that he started working in manganese mines during the last war and has worked on manganese properties and mined manganese ores for about half of the time since the first war. That the greater part of his digging has been in Arkansas, but he has dug considerably and produced large quantities of manganese ore on the Long Valley claims in question in Arizona. That the producing mines in Arkansas are harder to mine and have lesser quantities of manganese. That the Long Valley operation is more easily mined and has a greater quantity of high grade ores. That three out of five prospect digs have manganese ore in workable quantities on the Long Valley claims. That he has worked on these claims two months last year and all summer this year. That he has been advanced about $600.00 this year and will make $12.00 per ton on ore of the mines, plus a bonus.

The hour having grown late and as the Government had used up most of the day with their testimony, it was stipulated between counsel that the hearing might be continued before the Manager of the Phoenix Land Office in person on January 7, 1947, at which time it was stipulated that the applicant would be allowed to give his full testimony, and Mr. Nebeker would testify as to the value of the minerals and other pertinent matters, and that the applicant could complete his showing at that time. The Forest Service reserved the right to put on whatever evidence might be needed to rebutt applicant's testimony.

D. J. HORGAN

4—018 a

UNITED STATES
DEPARTMENT OF THE INTERIOR
GENERAL LAND OFFICE
DISTRICT LAND OFFICE

Phoenix, Arizona. (Place) Contest 9809.

Morgan & Lockler,
Attorneys,
Prescott, Arizona.

July 12, 1946. (Date)

United States

vs.

J. Reed Denison,
1164 East College,
Batesville, Arkansas.

Involving Mineral Entry 082157, Mineral Survey 4291.

By authority of ~~General Land Office~~ Regional Forester's letter dated July 2, 1946

In the matter of the above-entitled case, you are hereby notified that the following charges have been filed by a representative of the ~~Interior Department~~ Forest Service against the validity of your entry, to wit:

1. That no valuable discovery of mineral bearing rock in place has been made upon the said mining claims, or any of them, within the contemplation of the mining law.
2. That the land included within the said mining claims, and all of them, is nonmineral in character.
3. That the applicant for patent and his predecessors in interest have not expended $500.00 in improvements work upon, or for the benefit of each of the said mining claims, or upon, or for the benefit of, any of them.
4. That the applicant for patent is claiming credit for improvements not constructed by him, or his predecessors in interest, but made by prior locators many years ago, not in privity with the applicant for p tent, orhis predecessors in interest.
5. That the lands comprised within the said mining claims are of greater value for the timber standing and growing upon the said lands,, and that the said lands are chiefly valuable for the timber thereon, and are of no practical value for mining & milling purposes.

~~You are notified that if you fail to file in this office within thirty days of date of service of this notice, a written or printed answer, under oath, denying each of said charges, or showing a state of facts rendering said charges immaterial, and applying for a hearing to determine the truth of said charges and answer, or if you fail to appear at a hearing applied for, your said above entry or claim will be considered for rejection or cancellation.~~

~~As the entry record is defective, in the event said charges should fail, it will be necessary to submit curative showing as to~~

6. That applicant is not seeking patent in good faith to acquire the land comprised within said mining claims, or any of them, for bona fide mining and milling purposes, but that applicant is seeking to acquire the land for purposes other than mining.

You are notified that if you fail to file in this office within 30 days of date of service of this notice, a written or printed answer, under oath, denying each of said charges, or showing a state of facts r end ring said charges immaterial, and applying for a hearing to determine the truth of said charges and answer, or if you fail to appear at a hearing applied for, your said above entry or claim will be considered for rejection or cancellation.

(See copy of the Regional Forester 's Protest or Adverse, herewith enclosed.

Thos. F. Britt

(Thos. F. Britt) Register.

JMG.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine: J. Reed Denison (Baxter-Denison)

Date: December 2, 1958

District: Long Valley, Coconino Co.

Engineer: Travis P. Lane

Subject: Status

The following brief comments were made to the writer by Mr. Alvis S. Denison at the time of a visit to his mine and mill operating near Heber.

Property: The property comprises 9 patented claims. It is located in Long Valley some 50 miles south from Winslow.

Owner: The claims (manganese) were formerly owned by Alvis S. Denison's brother, J. Reed Denison, deceased, and are now owned by the Baxter-Denison estate.

The Last Chance Mining Co. operated the property for a time under lease and option agreement from J. R. Denison. A large sum of money was spent in development and in the construction of a mill. Some small lots of crude sorted ore were shipped and, following construction of the mill, eleven carlots of concentrate. The mill operation was short-lived, however, and the property was then leased to others. The lessees quit and the property reverted to the owners. It is presently idle.

MORGAN & LOCKLEAR
ATTORNEYS AT LAW
PRESCOTT, ARIZONA

E.C.LOCKLEAR
D.J.MORGAN

November 15, 1946

DEPT. MINERAL RESOURCES
RECEIVED
NOV 16 1946
PHOENIX, ARIZONA

Mr. C. H. Dunning, Manager
Department of Mineral Resources
Phoenix, Arizona

Dear Mr. Dunning:

We have not yet received a copy of the transcript of the Flagstaff contest, but I thought it would be wise to write up the enclosed abstract which consists of my recollection and the notes I took at the hearing. I would like to have your opinion, comments and advice on what to show in opposition to the case shown here.

I have found the discrepancy between the samples assayed by the Government and by the applicant to lie mostly with the process used in analyzing. It appears that Kasey here, who tested the samples for the Forest, used a specialized method only applicable to the chemical type ores and, therefore, did not give true findings of the commercial value of the ores for use in steel operations.

I will be anxious to hear what your views are.

Very truly yours,

Donald J. Morgan

Donald J. Morgan

DJM-JD

MORGAN, Donald J. Rt. 1, Box 58C
Morgan & Locklear
Prescott, Arizona 11-4-46

See DENISON MANGANESE - re patent

Dennison - Forest Service

MORGAN & LOCKLEAR
ATTORNEYS AT LAW
PRESCOTT, ARIZONA

E.C. LOCKLEAR
D.J. MORGAN

November 7, 1946

DEPT. MINERAL RESOURCES
RECEIVED
NOV 8 1946
PHOENIX, ARIZONA

Mr. C. H. Dunning, Director
Department of Mineral Resources
Phoenix, Arizona

Dear Mr. Dunning:

We have not received our copy of the Flagstaff transcript. I hope to get you the substance of their remarks in the very near future.

Please do not feel that you are butting in because we welcome every single bit of help we can get in this matter.

Kindest personal regards.

Very truly yours,

Donald J. Morgan

Donald J. Morgan

DJM-JD

November 4, 1946

Mr. Donald J. Morgan
Morgan & Locklear
Prescott, Arizona

Dear Don:

Be sure to get us a copy of the Flagstaff transcript. We don't want to butt in but do want to help you all possible.

Yours sincerely,

Chas. H. Dunning
Director

CHD:LP

MORGAN & LOCKLEAR
ATTORNEYS AT LAW
PRESCOTT, ARIZONA

E.C.LOCKLEAR
D.J.MORGAN

October 25, 1946

DEPT. MINERAL RESOURCES
RECEIVED
OCT 28 1946
PHOENIX, ARIZONA

Mr. C. H. Dunning
Arizona Bureau of Mineral Resources
Phoenix, Arizona

Dear Mr. Dunning:

I have not before had an opportunity to reply to the kindness and advice of yourself and Mr. Nebeker in regard to the protest to Mr. Denison's application for patent of his Long Valley manganese properties. Mr. Nebeker has undoubtedly outlined what he found on his examination, but will undoubtedly be astounded to learn that the Land Office and Forest Service engineers testified on the November 22nd hearing at Flagstaff that in their opinion there was no valuable mineral in place on the property and if there ever had been, it was all worked out.

By stipulation we continued the hearing to the 7th day of January, 1947, before Tom Britt, Manager of the local land office. At that time we plan to put Mr. Denison on the stand to show his operations over the past several years and Mr. Nebeker to testify in regard to the valuable mineral character of the land. This is a very important test case and if the Forest Service is upheld in its contention I do not see how it will ever be possible for a patent to be issued to mining property in any forest area in Arizona. I am going to work up a short abstract of the testimony and send a copy to your office. Of course, we will have the complate transcript by the time of the January hearing.

With thanks for your continued interest, I am

Very truly yours,

Donald J. Morgan

Donald J. Morgan

DJM-JD

October 25, 1946

MEMORANDUM

TO: A. C. Nebeker

FROM: Chas. H. Dunning

You better get the story from Morgan before you come down and leave it for me in the office.

I particularly want to know how we can fit in at the hearing here on the 7th.

CHD:LP

Denison Mine

October 15, 1946

MEMORANDUM

TO: J. E. Busch

FROM: Chas. H. Dunning

The land in question is about 1-1/2 miles south of Williams and on the SW$\frac{1}{4}$ of Section 3; Township 21 North; Range 2 East.

We would like to know under what authority the Forest Service has it posted with "restriction" notices, and have stated they will not permit anyone to mine there.

CHD:LP

YAVAPAI COUNTY COUNCIL

ARIZONA SMALL MINE OPERATORS ASSOCIATION

THE SMALL MINE OF TODAY IS THE PRODUCER OF TOMORROW

EXECUTIVE COMMITTEE

ACTIVE MEMBERS

W. C. BROADGATE
WM. F. FITZGERALD
ERNEST DICKIE
MARK GEMMILL
FRED GIBBS
HARRY HOPKINS
J. BRYANT KASEY
DICK MARTIN
H. F. MILLS
E. M. MOORES, JR.
A. C. NEBEKER
JOHN ROBINSON, JR.
JOHN P. RYAN
FRED SCHEMMER
SILAS P. SILVERMAN
GRACE M. SPARKES
LEO T. STACK

HONORARY MEMBERS

HON. CARL HAYDEN
HON. ERNEST W. McFARLAND
HON. JOHN R. MURDOCK
HON. RICHARD HARLESS
HON. SIDNEY P. OSBORN
GRACE M. SPARKES
LT. HARRIE B. STEWART

Prescott, Arizona

October 14, 1946

HEADQUARTERS: GROUND FLOOR
OF THE COURTHOUSE, PRESCOTT,
ARIZONA.
P. O. BOX 1548

OFFICERS

CHAIRMAN
J. BRYANT KASEY
VICE CHAIRMAN
MARK GEMMILL
SECRETARY-TREASURER
MARYANN KASEY
ASST. SECRETARY
BLANCHE I. BLAIR

HONORARY SECRETARY
GRACE M. SPARKES

DEPT. MINERAL RESOURCES
RECEIVED
OCT 15 1946
PHOENIX, ARIZONA

Mr. C. H. Dunning, Director,
Department of Mineral Resources,
Phoenix, Arizona.

Dear Dunning,

I will be ready to go with Morgan or Dennis to Long Valley, when they are ready.

I just called at Mr. Morgan's office. He happened to be out, but his partner said they would let me know when they would leave.

As I came out of Morgan's office I ran on to Mr. Waara. He heard them say something about Long Valley and Manganese to me, so he asked me if I was going up there for Dennis and Morgan. I told him no, that I was going up for the Department of Mineral Resources, and what report I made would be handed in to the Department. Waara feels that they are using the Department to give him the "run-a-round."

Dennis and Morgan retained Waara to make a report and examination, with understanding fee of $50. per day, $5.00 per day for car, plus .08 cents per mile and if two days were necessary to use it. It took Waara two days in the field, plus other time making up report.

Up to date, they have refused to pay Waara and want to compromise for $50.00, which, of course, is unfair to Waara. Waara made several recommendations to help them in their deal which they are carrying out.

They tried to retain Waara, on a conditional deal after the above was completed, if they win he gets a much larger fee, but if they loose they will pay him $50.00, which does not look fair to me.

Waara expects to be in Phoenix in a few days. I suggested to him that he call on you. He asked me to let you know about this picture, hence the reason of this letter. Yours truly,

A. C. Nebeker

An Organization interested in the problems of those who operate mining properties in Arizona.

Yavapai County has a mineral production record of $551,630,685 from 1880 to 1939 according to records compiled by the United States Geological Survey and is doing a heroic job in the war effort.

October 11, 1946

Mr. Donald J. Morgan
Morgan & Locklear
Prescott, Arizona

Dear Don:

Since your letter of the 10th was written, Mr. Denison has been in to see us and we have offered all the facilities we have to assist him in this case.

We have asked our field engineer, Mr. A. C. Nebeker of Prescott, to be prepared to go to and examine the property on October 17-18. We advised Mr. Nebeker to get in touch with you so that transportation might be combined.

May we also suggest that you try to contract him for the same purpose.

This department is most anxious to help legitimate miners in such cases and stop the encroachment of the Department of Interior on intrinsic mining rights. At the same time we will play fair with that department and refuse to assist or be a party to any application for patent or other mining benefit when we believe the intention is not for legitimate mining purposes.

On the face of it, however, this case appeals to us as an outstanding case of legitimate mining, and this department wishes to offer you its full facilities in obtaining justice for these miners.

After Nebeker's examination if I can be of further help by making a personal examination and appearing as a witness, I will be glad to do so.

In the meantime please get together with Neb.

Yours sincerely,

Chas. H. Dunning
Director

CHD:LP

MORGAN & LOCKLEAR
ATTORNEYS AT LAW
PRESCOTT, ARIZONA

E.C. LOCKLEAR
D. J. MORGAN

October 10, 1946

DEPT. MINERAL RESOURCES
RECEIVED
OCT 11 1946
PHOENIX, ARIZONA

Mr. Chas. H. Dunning
Arizona Bureau of Mineral Resources
Phoenix, Arizona

Dear Mr. Dunning:

To assist us in presenting a case to the Land Office for patenting certain manganese claims of J. Reed Denison in the Long Valley District, Coconino County, Arizona, we would appreciate any data, reports, bulletins or information you might have in regard to the mineral value of the manganese deposits in the Long Valley area, and especially those worked by Denison, Shafer, Linesba and others in that particular group.

We are to present evidence of mineral content and value at the hearing on the 22nd of October and again at a final hearing before the Manager of the Regional Bureau of Land Management in Phoenix on November 7. Any help you can give us will be greatly appreciated. Our contention is, of course, that the claims from which have been extracted some $70,000 worth of manganese ores in the last four years, are of a greater economic value for minerals than for timber.

Very truly yours,

Donald J. Morgan

DJM-JD

Donald J. Morgan

Dunning

11/4/46?

October 10, 1946

MEMORANDUM

TO: A. C. Nebeker

FROM: Chas. H. Dunning

One very important thing has come up in your territory recently that is of such importance that it would seem best for you to lay conflicting commitments aside and devote your time and energy to this matter for the time being.

Mr. Dennison and Mr. Leonard Baxter have been operating a manganese property at Long Valley for the past several years and have produced over $70,000.00 worth of manganese.

They are experienced Arkansas manganese producers and were induced to come to Arizona for the better opportunities presented here.

They have made this record of production and investment for themselves, but now comes forth the Forest Service, when they apply for a patent, and tries to tell them they have no discovery, no improvements ($500.00 required) and no chance of a commercial enterprise, and denies their patent.

This all seems to us an outstanding example of the extent to which the Department of Interior will proceed if given free reign. It seems high time that this department - having such an ideal case - set our foot down and went to the bat for them.

These boys are not interested in timber, summer resorts or hamburger stands. They are experienced and professional manganese miners. But still the Forest Service objects.

It is liable to become a key or test case and it is most important for the mining industry that we put some stop to the continued encroachment of the Department of Interior into old mining rights.

Mr. Dennison informs me that the Forest Service is to have a man examine and sample the property on October 17-18. Under the circumstances it seems important that you drop other matters (including the Phoenix A.S.M.O.A. meeting on the 18th) and visit this property at that time.

You can view their method and plans (and their attitude) in taking samples - and take any samples of your own that your judgement indicates.

You should take some measurement of the works or improvements, so as to be able to testify as to whether or not they have fulfilled the law in its $500.00 requirement.

DEPT. MINERAL RESOURCES
RECEIVED
NOV 28 1941
PHOENIX, ARIZONA

1064 Franklin Ave.,
Walla Walla, Washington,
Nov.,22, 1941.

Department of Mineral Resources
State Of Arizona,
518 Title & Trust Bldg.,
Phoenix, Arizona.

Attention of Mr. Chas. F.Willis, Chairman of Board of Governers.

Dear sir;

Thank you for your prompt reply of the 18th inst., and I will do likewise.

I filed a complete description of our property with your department in either August or September of last year. The form sent me at that time, as I recall, was a blue sheet an covered about the same information as asked by this new form. However, if you still wish to have this one filled out also, I will be glad to do so. Just say the word.

Practically all of the assays we had made of ore, (not picked samples, but general run stuff), showed from 46% to 52% M., with 1% to 3% silica;and .04% showed sulphurous content in one sample assayed. One bunch we had assayed showed $3.41 in gold and 71¢ in silver but I understood that the recovery of these would be a bit high to rely on any great source of income from them.About all of the assays showed 1% iron.

I sent a 35 lb sample of the ore to the War Dept., at Washington, D.C., and they wrote me asking me to keep in touch with the U.S.Bureau of Mines, describing the developments we made. I dis this and they sent a mining engineer named Bell out to look over the property. He was very much interested and spent quite some time there studying the property. When he left, he wouldnt tell us anything other than it was the best ore in the whole area and contained less impurities and he thought the ore would get better and be in larger quantities in greater depth.

If a buyer could be obtained, I would be glad to sell or lease to an operator. However, I have given my power of attorney to Mr. C.D.McCauley, attorney or Winslow, Arizona and anyone desiring to see the property or buy or lease it could do business direct with him.

Yours very truly,

Claude L. Hubbard

Claude L. Hubbard.

November 18, 1941

Mr. C. L. Hubbard,
1064 Franklin Avenue,
Walla Walla, Washington.

Dear Mr. Hubbard:

I have your letter of November 15. We still are expecting the manganese buying station to be opened in Phoenix but we have not received definite word regarding it as yet. We were assured last August that plans were about ready to be announced but Government "red tape" is probably holding it up. We are beginning to wonder if it is just one of the gestures to make the small mine operator feel that something is going to be done for him.

We do have many people coming into the office seeking manganese properties and I am wondering if you have a description of your property filed with the Department of Mineral Resources. When people inquire as to sources of manganese in the state we have to have descriptions available so that they can determine whether they want to make personal examination or send their engineers. I feel very sure we could help you if you have the manganese and a description of your property in our records. I am enclosing a blank form for you to fill out which asks the questions which those seeking properties want to know.

I particularly note your inquiry as to the meaning of 50 cents per long ton unit. A unit if one per cent and therefore in order to get the value per ton you multiply the percentage of manganese by the price per unit and that is the value per long ton of 2,240 pounds. In other words, 40 per cent manganese at 50 cents per long ton is $20 per ton - 40 times 50.

Senator Hayden is in Arizona at the present time and it is very probable I will see him. I certainly will convey your kindest regards.

Yours very sincerely,

CHARLES F. WILLIS, Chairman
Board of Governors

CFW:MH

1064 Franklin Ave.,
Walla Walla, Washington,
Nov.,15, 1941.

Chas. E. Willis,
Secretary of the Arizona Small Mines Operators,
Phoenix, Arizona.

Dear sir;

In the November, 1941,issue of the California Mining Journal I recently read of a new government Manganese buying station, operated by The Metals Reserve Company, is to be opened in Phoenix.

It stated therein that, "Ores of at least 40% manganese content will be accepted in minimum lots of 100 tons."-----"Price offered at present is 50¢ per long ton unit of 22.4 pounds"---.

I am interested in some claims in the Long Valley Unorganized Mining District, located 57 miles S.W., of Winslow, Arizona, and have found the ore to be of excellent quality and of low impurity content.

I am, however, a bit puzzled as to how the ore price is figured. For instance;-

If the ore assays at 40% M., and the quoted price is 50¢ per L.T.unit, does that mean that the ore itself brings 50¢ per 22.4 pounds, or is that quoted price paid on the actual manganese contained in the ore?

As I have heard several mining men argue on this point I have come to the conclusion that I am really not as dumb as I was at first inclined myself to be. I am not a mining man by profession but got interested in these three claims in the middle of 1940 when I was prospecting in the Blue Ridge district which is about 10 miles north-east of Long Valley. Later, in July, to be exact, I located these three claims with a partner, a Leslie Neilson, and we completed the location and first years assessment work and filed on it at Flagstaff. Then I discovered that Neilson had pulled several very crooked deals and so I refused to ship the first carload of ore in our names, explaining to him that to do so would appear that I,too, was a party in his wrong doings and my share of the proceeds would be apt to be siezed with his. I shut down the mine temporarily and went to California and then my company, Electrolux Corp'n., transferred me to Washington where I now reside in Walla Walla.

Mr. C.W.McCauley, attorney of Winslow, has been given my power of attorney to act for me and is supposed to doing something about the collecting of moneys that Neilson obtained thru fraud by forging my name to certain lease-option papers on the property.

I havent heard anything from Mr. McCauley for some time but suppose he just hasnt anything of importance to report as yet.

I have met Senator Carl Hayden quite some time ago when he was running for office and made it. My brother and I were running the radio station in Jerome,KCRJ, and campaigned for him on the air. If you should see him, please give him my kindest regards.

Yours very sincerely,

C.L.Hubbard

C.L.Hubbard.

SURVEY OF OPERATING MINES

DEPT. MINERAL RESOURCES
RECEIVED
JUL 10 1942
PHOENIX, ARIZONA

JULY 9th, I942

By: A. C. Nebeker

SHAFER MANGANESE MINE
or
LAST CHANCE
LONG VALLEY, ARIZ.

SHAFER MANGANESE MINE,
R.A. Shafer, Owner
Winslow, Ariz.

Operators, Denison & Shafer.

This mine is located 50 miles southeast of Flagstaff, Arizona, in what is known as Long Valley. The roads to the property from both Flagstaff and Winslow are good, and the property can be reached by way of ~~[illegible]~~ Jerome and Cornville.

The property consists of 4 claims owned and a lease option on several other mining claims. All claims are covered with a heavy timber growth, ,and the overburden of pine needles and decomposed country rock. Elevation 7800 feet.

The only metal produced is Manganese, and the ore is highgrade, assaying 40% to 50% Mn.
There has been several car loads of ore shipped out of this district by previous operators , and some promotion by them was undertaken, which did the properties more harm than good.

The present operators started up less than two months ago, so had no production last year.

The formation is flat, and the bed in which the ore occurs is a reddish soft bed about 4 feet thick, over which is s oil and pine needles, or a soft sandy lime or sandstone. The over burden is from a foot to several feet thick. The manganese occurs in the soft reddish bed and is from two or three inches thick and in places make bunches three or more feet thick. The ore is opened up by shallow pits and trenches. To locate the place for the pits or small shafts, and also the trenches, the operators first drive a long steel down by hand until it cuts the red and blue formation below, and when the drill shows the formation, there is where a shaft or trench is dug. There is now on the property six such workings . There is also two short tunnels,in the face,the ore bed still show~~s~~.

There is no machinery on the property and all work is done by hand.

The miners are most all Arkansas Manganese miners, with experience in this type of mining. They mine on the contract per ton basis and are averaging now ½ ton per man per day. At this time there are six men working and it is planned to increase the force up to twenty men.
Every man's ore is kept separate and when a truck load is mined it is weighed on a platform scale the compa ny has installed, so every man knows just what his output is and the company knows just the amount it is paying for. After the ore is weighed it has been dumped in piles so each truck load can be counted.
I counted the truck loads and checked up on the weights the company has paid the miners for and I find, the miners have received payments for over 360,000 lbs ore, and beside this there is still several piles yet to be weighed. There is also approximately ~~[illegible]~~ I5 tons in a dump which has been bought from a Dr. in Prescott. I would now figure there is over 400,000 lbs ready to haul to market.
At Kanab, Utah, this company, Mr Shafer tells me, has a car load there which has to be moved to the Ra ilroad.

DEPT. MINERAL RESOURCES
RECEIVED
JUL 10 1942
PHOENIX, ARIZONA

SURVEY OF OPERATING MINES SHAFER MANGANESE MINE

At the present time no block~~ed out ore can be cla~~imed, the work has been in widely spaced pits. It appears however tonnage will depend on the number of pits opened and the number of men employed. All men now are working on ore and it is certain that other shafts and trenches can produce like the present ones are.

Mr Shafer & Denison plan to bring in more men and open the ore bed with more shafts and tren ches.

Mr Sh afer & Denison with their years e xperience in mining ~~mangan~~ manganese ores will get the manganese there and have a good high grade product. I understand they are using only their own money in this business and it appears that they well know what they are doing, thereby giving the property a chance to become a real producer.

signed A.C.Nebeker

SURVEY OF OPERATING MINES

By: A. C. Nebeker

JULY 9, 1942

SHAFER MANGANESE MINE
or
LAST CHANCE
LONG VALLEY, ARIZ.

SHAFER MANGANESE MINE
R. A. Shafer, Owner
Winslow, Ariz.

Operators: Denison & Shafer

This mine is located 50 miles southeast of Flagstaff, Arizona, in what is known as Long Valley. The roads to the property from both Flagstaff and Winslow are good, and the property can be reached by way of Jerome and Cornville.

The property consists of 4 claims owned and a lease option on several other mining claims. All claims are covered with a heavy timber growth, and the overburden of pine needles and decomposed country rock. Elevation 7800 feet.

The only metal produced is manganese, and the ore is high grade, assaying 40% to 50% Mn. There have been several car loads of ore shipped out of this district by previous operators, and some promotion by them was undertaken, which did the properties more harm than good.

The present operators started up less than two months ago, so had no production last year.

The formation is flat, and the bed in which the ore occurs is a reddish soft bed about 4 feet thick, over which is soil and pine needles, or a soft sandy lime or sandstone. The over burden is from a foot to several feet thick. The manganese occurs in the soft reddish bed and is from two or three inches thick and in places makes bunches three or more feet thick. The ore is opened up by shallow pits and trenches. To locate the place for the pits or small shafts, and also the trenches, the operators first drive a long steel down by hand until it cuts the red and blue formation below, and when the drill shows the formation, there is where a shaft or trench is dug. There is now on the property six such workings. There are also two short tunnels, in the fact, the ore bed still show.

There is no machinery on the property and all work is done by hand.

The miners are most all Arkansas manganese miners, with experience in this type of mining. They mine on the contract per ton basis and are averaging now $\frac{1}{2}$ ton per man per day. At this time there are six men working and it is planned to increase the force up to twenty men.

Every man's ore is kept separate and when a truck load is mined it is weighed on a platform scale the company has installed, so every man knows just what his output is and the company knows just the amount it is paying for. After the ore is weighed it has been dumped in piles so each truck load can be counted.

SHAFER MANGANESE MINE

July 9, 1942

I counted the truck loads and checked up on the weights the company has paid the miners for and I find the miners have received payments for over 360,000 lbs. ore and besides this there are still several piles yet to be weighed. There are also approximately 15 tons in a dump which has been bought from a doctor in Prescott. I would now figure there are over 400,000 lbs. ready to haul to market.

At the present time no blocked out ore can be claimed, the work has been in widely spaced pits. It appears, however, tonnage will depend on the number of pits opened and the number of men employed. All men now are working on ore and it is certain that other shafts and trenches can produce like the present ones are.

Messrs. Shafer and Denison plan to bring in more men and open the ore bed with more shafts and trenches.

Messrs. Shafer and Denison with their years of experience in mining manganese ores will get the manganese there and have a good high grade product. I understand they are using only their own money in this business and it appears that they well know what they are doing, thereby giving the property a chance to become a real producer.

(Signed) A. C. Nebeker

COPY

July 10, 1942

Mr. Robert A. Shafer
Winslow, Arizona

Dear Mr. Shafer:

I have had a reply from our Assistant Director, W. C. Broadgate, from Washington stating that it was very doubtful if we could get a proper rating on your truck from the PD-1A application submitted. The first step necessary is to get a serial number. If you will fill out the enclosed application for serial number under preference rating order number P-56 and return it to me, I will submit this to Mr. Broadgate in Washington together with the report by Mr. Nebeker on his survey of your property and in this way I believe we can expedite your serial number.

I am enclosing a copy of the survey of your property by A. C. Nebeker, the field engineer for the Department of Mineral Resources, whose headquarters are at Prescott. This report coming from the Department should be enough certification for you to present to any of the parties with whom you have taken up the question of priorities in order to purchase a truck. Once a serial number is granted you will have no difficulty in purchasing a truck through the ordinary channels, as the local boards will recognize your preference rating.

Yours very truly,

J. S. Coupal, Director

JSC:LP
Enc.

MEMO. al Webster

July 3,1942.

EMERGENCY,
PRIORITY
Last Chance. - MANGANESe

I have had an emergency call where we may be of some service.

Robert A. Shafer, operating the Last Chance Manganese mine at Long Valley has been blocked in his move to get his ore moved.

He can make no headway toward getting a truck (purchase) until he can have some certify to the fact that he has a mine and has ore out on the dump ready to move.

I have made the following arrangements for you which I sincerely hope you can work into your schedule.

Shafer will meet you at Jean's Corral on Wednesday morning at 9 A.M. on July 8th. I know you have a meeting at Aguila on Tuesday night the 7th but you should be able to be at Wickenburg at Jean's Corral by 9 A.M. on Wednesday.

They will take their car and drive you up to Long Valley to look over the property, make a brief report or description, check roughly on the amount of ore out ready to ship and as to the prospects of being able to continue shipments at about 1 car a week.

With that information on hand I can certify as to the mine and ore and will be able to arrange for a priority so that they can get a new truck and start hauling.

Please confirm by post card or otherwise that you can keep this date.

You should be back in Wickenburg Wednesday late afternoon or early evening.

J. S. Coupal.

28 January 1941

Mr. J. R. Finkelstein,
Box 1132,
Prescott, Arizona.

My dear Mr. Finkelstein:

With further reference to your request for information concerning manganese properties in Arizona, I am enclosing herewith a copy of mine owners report covering the LAST CHANCE GROUP in the Blue Ridge Mining District, Coconino County.

I should suggest that you communicate directly with Mr. Claude L. Hubbard, P. O. Box 560, Winslow, Arizona, regarding this property.

Yours very truly,

J. S. Coupal
Director

JSC-jrf
encl.

28 January 1941

Mr. E. J. Belleau,
3722 South Arlington Avenue,
Los Angeles, California.

My dear Mr. Belleau:

With further reference to your request for information concerning manganese properties in Arizona, I am enclosing herewith a copy of a mine owners report covering the LAST CHANCE GROUP in the Blue Ridge Mining District, Coconino County.

I should suggest that you communicate directly with Mr. Claude L. Hubbard, P. O. Box 560, Winslow, Arizona, regarding this property.

Yours very truly,

J. S. Coupal
Director

JSC-jrf
encl.

13 September 1940

Mr. Claude L. Hubbard,
P. O. Box 560,
Winslow, Arizona.

My dear Mr. Hubbard:

In the absence of Mr. J. S. Coupal, I am taking the liberty of acknowledging receipt of your letter of September 9 giving a description of your manganese claims.

I shall call this description to Mr. Coupal's attention at the first opportunity.

In the meantime this description will be copied on one of the report forms and within a short time copy will be mailed to you for your files.

Should we have inquiries for a property such as yours, we shall be glad to submit a copy of the report.

Yours very truly,

Jess. R. Nicolas
Secretary

JSC:jrf

P.O.Box 560,
Winslow, Ariz.,
Sept.,9, 1940.

Department of Mineral Resources
State of Arizona

Refering to "Owners Mine Report."

Gentlemen;-

I have one of your copies of the above mentioned report but I am afraid that it is a bit too pocket worn to attempt to submit any written data on it so will try to give you the dope on this sheet and those accompanying.

Our mining property is made up of 3 claims in the unorganized Long Valley mining district and are located about 3 miles in a North-easterly direction from the Long Valley Store. The names are the Last Chance #1, & #2, and the Gypsy. They were formerly located by other parties but were not filed, recorded, nor was the location work done. The parties left them because of their inability to finance themselves long enough to do so. The claims, Last Chance #1 & #2 were filed and recorded under the name of L.T.Neilson who quit claimed ½ interest to C.L.Hubbard. The Gypsy was filed and recorded by C. L.Hubbard who quit claimed a ½ interest to L.T.Neilson. This was done on August 29, 1940. The location work is completed and we have entered into a partnership with equal ownership in all our claims. We are mining Manganese ore and assays show 42% to 58% Mn., 3% to 8% silica, 1% to 3% iron, and from nil to .41% barium sulphates tho the latter usually shows nil or a trace. We have opened up several fine veins of beautiful ore from the surface to a depth so far of 8 feet. Today we opened up a vein that runs from one foot wide at the top,(vein first showing about four feet below the surface), and widening out to a good five feet wide at a depth from the top of the vein of about four feet. This ore showed a little heavy with silica at the surface where large quantities of float were present but we are preparing to put in a drift and the ore is showing up very fine now with little apparent silica at a depth of six to eight feet. We have about 38 tons in Winslow ready for shipment at present and about ten tons here on the dump. We expect to ship to C.F.& I. in Pueblo, COLO., as soon as we can mine the balance of the car,(50 to 55 T.), which we expect to have ready this week.

At present we are doing all work by hand methods. We are looking for a party or parties who will take a third interest or buy the whole property.

Recent visits from some of the very reputable mining engineers of the country, including one from the U.S.Bureau of Mines, were very encouraging to us. All have frankly stated that the section of Long Valley,in which our claims are situated,is by far the most favorable both for quality and quantity of Manganese ore. While others in the district seem to be getting their ore in a bretza (breccia) or comglomerate, we are favored with a layer of ancient lime containing fossil clams,etc., all in place. Next below is a layer of heavy red clay and then a sandstone layer. The ore laying close to the surface is found in the red clay either directly under or

on top of the sandstone. In one hole about six feet wide by five feet deep by fifteen feet long we have just taken nearly ten tons of very high grade ore and there is still a goodly sized vein in sight tho it is apparently turning from westerly to a north-westerly direction and is dipping in a downward direction.

We also have two shafts down to depths of 15 feet and 22 feet respectively. Ore is showing in both shafts, tho not yet heavily enough to go in for mining it.

We are not employing any one at present nor have we done so as yet.

We have been advised to obtain a caterpiller tractor and a bulldozer and slice away the face from two or three of the hillsides on our claims. The claim adjoining our Last Chance #1 has over a carload of A1 grade ore on the dump and at least three cars more in sight. This opening is in direct line and a continuation of the exact formation clear down the length of our Last Chance #2 also and is only about 150 feet from our #1. We have tested the formation just inside of our #1 claim and have found that the bedding plane of ore continues . It seems to show at about the same levels all the way down the length of the two claims. There is a good road to the mine from highway #65, or the U.S.Forestry road, right to the mines,Any of the roads from Winslow,on 65, or Flagstaff via Mormon Lake, or Cottonwood or Payson, to Long Valley are in good shape, tho the road from Flagstaff via Mormon Lake is being rebuilt in places at this date,9/9/40.

Water is hauled in by each of the various miners from Clover Springs. A distance of about 4½ miles from camp.Excellent water and a plentiful supply.

Some ore was hauled from here in 1902 to the smelter in Clarkdale for use as a flux. I understand that a total of 17 cars were shipped out of here during the World War. Dr. Paul Sprankle of Winslow told me that he shipped 7 cars out of here about 9 years ago.Quit because of the low price of Manganese at that time.

Under your note heading,"Special Problems", I would say that if this section is to produce Manganese ore throughout the year there should be some effort made to induce the Forestry Service keep the road open during the snowy season. This should also be called to the attention of the State Highway Department regarding the highway #65 from here to Winslow, the nearest railroad shipping point, a distance of 57 miles from Long Valley Store.

Any further information you may desire will be gladly sent if it is possible for me to obtain it for you.

I am very sincerely yours,

Claude L. Hubbard

Claude L. Hubbard.
P.O.Box 560,
Winslow, Arizona.